

**Appendix C**  
**Mass Removal Sample Data**



## **Appendix C**

### **Mass Removal Sample Data**

Appendix C comprises four tables and five figures. The tables contain the volatile organic compound mass removal from each of the three vapor vacuum extraction units at the Subsurface Disposal Area and a cumulative breakdown, per operating cycle, for mass removal through the year-end 2002 operational period. Figures C-1 through C-3 illustrate the carbon tetrachloride sample concentrations at the units during the year-end 2002 operational period. Figures C-4 and C-5 illustrate the proportion of each volatile organic compound of the cumulative mass removed during the year-end 2002 operational period.

Table C-1. Unit A end-year 2002 mass removal calculations.

Actual Data										Riemann Sums				
Identifier Number	Sample Date	Sample Time	Decimal Date	CHCl <sub>3</sub> (ppmv)	TCA (ppmv)	PCE (ppmv)	TCE (ppmv)	CCl <sub>4</sub> (ppmv)	Number of Days	CHCl <sub>3</sub> (ppmv×day)	1,1,1-TCA (ppmv×day)	PCE (ppmv×day)	TCE (ppmv×day)	CCl <sub>4</sub> (ppmv×day)
<b>START</b>	7/1/2002	0:01	35976.0	4.23E+01	1.52E+01	4.24E+00	3.10E+01	1.64E+02	0.00	7.92	2.84	0.79	5.80	30.69
UNIT A-7/1/02	7/1/2002	9:00	35976.4	4.83E+01	1.23E+01	3.40E+00	3.39E+01	1.19E+02	0.37	32.43	8.26	2.28	22.76	79.91
UNIT A-7/2/02	7/2/2002	8:15	35977.3	4.89E+01	1.24E+01	3.29E+00	3.49E+01	1.19E+02	1.34	48.17	12.21	3.24	34.38	117.22
UNIT A-7/3/02	7/3/2002	8:17	35978.3	5.32E+01	1.44E+01	3.59E+00	4.04E+01	1.45E+02	2.34	52.92	14.33	3.57	40.19	144.24
UNIT A-7/4/02	7/4/2002	8:00	35979.3	5.32E+01	1.44E+01	3.59E+00	4.04E+01	1.45E+02	3.33	133.24	36.07	8.99	101.18	363.15
UNIT A-7/8/02	7/8/2002	8:30	35983.4	4.23E+01	1.10E+01	3.27E+00	2.87E+01	1.05E+02	7.35	106.26	27.63	8.21	72.10	263.78
UNIT A-7/9/02	7/9/2002	8:35	35984.4	3.90E+01	9.00E+00	2.90E+00	2.56E+01	7.75E+01	8.36	39.14	9.03	2.91	25.69	77.77
UNIT A-7/10/02	7/10/2002	8:40	35985.4	3.81E+01	1.04E+01	3.03E+00	2.62E+01	9.64E+01	9.36	37.64	10.27	2.99	25.88	95.23
UNIT A-7/11/02	7/11/2002	8:00	35986.3	3.94E+01	1.09E+01	2.90E+00	2.77E+01	1.05E+02	10.33	29.08	8.05	2.14	20.45	77.51
STOP	7/11/2002	20:06	35986.8	3.94E+01	1.09E+01	2.90E+00	2.77E+01	1.05E+02	10.84	9.93	2.75	0.73	6.98	26.47
START	7/15/2002	14:47	35990.6	4.12E+01	1.48E+01	3.63E+00	3.13E+01	1.57E+02	0.00	16.04	5.76	1.42	12.18	61.11
UNIT A-7/16/02	7/16/2002	9:28	35991.4	6.06E+01	1.73E+01	4.35E+00	4.59E+01	1.76E+02	0.78	52.39	14.96	3.76	39.68	152.17
UNIT A-7/17/02	7/17/2002	8:17	35992.3	5.31E+01	1.35E+01	3.50E+00	3.73E+01	1.34E+02	1.73	55.90	14.21	3.68	39.27	141.07
STOP	7/18/2002	12:00	35993.5	5.07E+01	1.26E+01	3.18E+00	3.55E+01	1.22E+02	2.88	29.28	7.28	1.84	20.50	70.45
<b>START</b>	8/2/2002	13:58	36008.6	3.25E+01	8.38E+00	2.48E+00	2.13E+01	7.92E+01	0.00	45.22	11.66	3.45	29.64	110.19
UNIT A-8/5/02	8/5/2002	8:45	36011.4	3.25E+01	8.38E+00	2.48E+00	2.13E+01	7.92E+01	2.78	61.26	15.80	4.67	40.15	149.30
UNIT A-8/6/02	8/6/2002	8:27	36012.4	3.42E+01	9.10E+00	2.40E+00	2.40E+01	8.90E+01	3.77	34.02	9.05	2.39	23.87	88.54
UNIT A-8/7/02	8/7/2002	8:30	36013.4	3.10E+01	7.66E+00	2.10E+00	2.08E+01	7.13E+01	4.77	30.71	7.59	2.08	20.61	70.63
UNIT A-8/8/02	8/8/2002	8:00	36014.3	2.76E+01	6.59E+00	1.94E+00	1.83E+01	5.76E+01	5.75	68.88	16.45	4.84	45.67	143.74
UNIT A-8/12/02	8/12/2002	8:17	36018.3	4.41E+01	1.01E+01	2.96E+00	2.96E+01	9.44E+01	9.76	110.42	25.29	7.41	74.11	236.36
STOP	8/13/2002	8:11	36019.3	4.00E+01	9.57E+00	2.76E+00	2.69E+01	8.69E+01	10.76	19.92	4.77	1.37	13.39	43.27
<b>START</b>	8/13/2002	15:30	36019.6	4.09E+01	1.16E+01	2.89E+00	2.89E+01	1.15E+02	0.00	16.05	4.55	1.13	11.34	45.12
UNIT A-8/14/02	8/14/2002	10:20	36020.4	4.09E+01	1.16E+01	2.89E+00	2.89E+01	1.15E+02	0.78	34.51	9.79	2.44	24.38	97.03
UNIT A-8/15/02	8/15/2002	8:00	36021.3	4.58E+01	1.04E+01	2.72E+00	3.30E+01	9.86E+01	1.69	112.93	25.64	6.71	81.37	243.11

Table C-1. (continued).

Actual Data																Riemann Sums				
Identifier Number	Sample Date	Sample Time	Decimal Date	CHCl <sub>3</sub> (ppmv)	TCA (ppmv)	PCE (ppmv)	TCE (ppmv)	CCl <sub>4</sub> (ppmv)	Number of Days	CHCl <sub>3</sub> (ppmv×day)	1,1,1-TCA (ppmv×day)	PCE (ppmv×day)	TCE (ppmv×day)	CCl <sub>4</sub> (ppmv×day)						
UNIT A-8/19/02	8/19/2002	8:41	36025.4	3.64E+01	1.03E+01	2.73E+00	2.17E+01	9.37E+01	5.72	91.57	25.91	6.87	54.59	235.71						
UNIT A-8/20/02	8/20/2002	8:45	36026.4	4.39E+01	1.22E+01	2.81E+00	2.99E+01	1.12E+02	6.72	42.82	11.90	2.74	29.16	109.24						
UNIT A-8/21/02	8/21/2002	7:30	36027.3	3.72E+01	8.96E+00	2.21E+00	2.39E+01	7.57E+01	7.67	36.62	8.82	2.18	23.53	74.52						
UNIT A-8/22/02	8/22/2002	8:00	36028.3	3.32E+01	8.06E+00	2.28E+00	2.14E+01	6.57E+01	8.69	83.92	20.37	5.76	54.09	166.07						
UNIT A-8/26/02	8/26/2002	8:50	36032.4	3.98E+01	1.20E+01	2.77E+00	2.46E+01	1.11E+02	12.72	100.47	30.29	6.99	62.10	280.20						
UNIT A-8/27/02	8/27/2002	9:10	36033.4	4.20E+01	1.16E+01	2.66E+00	2.72E+01	1.09E+02	13.74	43.05	11.89	2.73	27.88	111.73						
UNIT A-8/28/02	8/28/2002	10:02	36034.4	4.03E+01	1.06E+01	2.47E+00	2.54E+01	9.55E+01	14.77	39.32	10.34	2.41	24.78	93.18						
UNIT A-8/29/02	8/29/2002	8:00	36035.3	4.66E+01	1.36E+01	2.97E+00	3.41E+01	1.33E+02	15.69	138.72	40.48	8.84	101.51	395.91						
UNIT A-9/3/02	9/3/2002	8:55	36040.4	4.68E+01	1.40E+01	5.52E+00	3.21E+01	1.31E+02	20.73	140.97	42.17	16.63	96.69	394.59						
UNIT A-9/4/02	9/4/2002	8:35	36041.4	4.58E+01	1.14E+01	4.30E+00	3.16E+01	1.02E+02	21.71	44.93	11.18	4.22	31.00	100.05						
UNIT A-9/5/02	9/5/2002	8:00	36042.3	3.86E+01	9.90E+00	3.56E+00	2.61E+01	8.47E+01	22.69	96.30	24.70	8.88	65.11	211.31						
UNIT A-9/9/02	9/9/2002	8:20	36046.3	3.38E+01	9.43E+00	7.08E+00	2.26E+01	7.26E+01	26.70	84.49	23.57	17.70	56.49	181.47						
UNIT A-9/10/02	9/10/2002	7:59	36047.3	3.28E+01	9.72E+00	4.65E+00	2.16E+01	8.40E+01	27.69	32.69	9.69	4.63	21.53	83.71						
UNIT A-9/11/02	9/11/2002	8:10	36048.3	4.28E+01	1.41E+01	4.32E+00	3.18E+01	1.41E+02	28.69	42.81	14.10	4.32	31.81	141.05						
UNIT A-9/12/02	9/12/2002	8:00	36049.3	4.64E+01	1.27E+01	3.69E+00	3.50E+01	1.22E+02	29.69	116.56	31.90	9.27	87.93	306.48						
UNIT A-9/16/02	9/16/2002	8:45	36053.4	5.07E+01	1.60E+01	5.47E+00	4.03E+01	1.64E+02	33.72	127.40	40.21	13.75	101.27	412.11						
UNIT A-9/17/02	9/17/2002	8:37	36054.4	4.06E+01	1.12E+01	3.60E+00	3.18E+01	1.11E+02	34.71	40.98	11.30	3.63	32.10	112.04						
UNIT A-9/18/02	9/18/2002	9:12	36055.4	4.40E+01	9.71E+00	3.11E+00	3.01E+01	8.72E+01	35.74	43.43	9.59	3.07	29.71	86.08						
UNIT A-9/19/02	9/19/2002	8:00	36056.3	3.76E+01	8.97E+00	2.90E+00	2.53E+01	7.73E+01	36.69	93.06	22.20	7.18	62.62	191.32						
UNIT A-9/23/02	9/23/2002	8:00	36060.3	3.76E+01	1.16E+01	4.22E+00	2.61E+01	1.12E+02	40.69	94.54	29.17	10.61	65.62	281.59						
UNIT A-9/24/02	9/24/2002	8:41	36061.4	4.78E+01	1.51E+01	3.96E+00	3.70E+01	1.56E+02	41.72	48.46	15.31	4.01	37.51	158.17						
UNIT A-9/25/02	9/25/2002	8:40	36062.4	4.65E+01	1.19E+01	3.10E+00	3.58E+01	1.16E+02	42.72	154.32	39.49	10.29	118.81	384.97						
UNIT A-9/30/02	9/30/2002	23:59	36068.0	4.15E+01	1.06E+01	2.83E+00	3.01E+01	1.04E+02	48.35	117.01	29.89	7.98	84.87	293.22						
UNIT A-10/1/02	10/1/2002	0:00	36068.0	2.83E+01	7.34E+00	2.61E+00	1.89E+01	6.47E+01	48.35	18.88	4.90	1.74	12.61	43.16						
UNIT A-10/2/02	10/2/2002	8:00	36069.3	3.02E+01	8.85E+00	2.51E+00	2.03E+01	8.58E+01	49.69	35.23	10.33	2.93	23.68	100.10						
UNIT A-10/3/02	10/3/2002	8:00	36070.3	3.59E+01	1.17E+01	2.81E+00	2.54E+01	1.22E+02	50.69	90.06	29.35	7.05	63.72	306.06						
UNIT A-10/7/02	10/7/2002	8:25	36074.4	3.63E+01	1.29E+01	6.33E+00	2.62E+01	1.14E+02	54.70	94.91	33.73	16.55	68.50	298.06						
STOP	10/8/2002	13:30	36075.6	4.62E+01	1.43E+01	3.62E+00	3.64E+01	1.45E+02	55.92	27.99	8.66	2.19	22.05	87.86						

Table C-1. (continued).

Identifier Number		Actual Data										Riemann Sums				
		Sample Date	Sample Time	Decimal	CHCl <sub>3</sub>	TCA	PCE	TCE	CCl <sub>4</sub>	Number of Days	CHCl <sub>3</sub>	1,1,1-TCA	PCE	TCE	CCl <sub>4</sub>	
		Date	Time	Date	(ppmv)	(ppmv)	(ppmv)	(ppmv)	(ppmv)		(ppmv×day)	(ppmv×day)	(ppmv×day)	(ppmv×day)	(ppmv×day)	
UNIT A-10	START	10/8/2002	19:58	36075.8	4.62E+01	1.43E+01	3.62E+00	3.64E+01	1.45E+02	0.00	12.14	3.76	0.95	9.57	38.11	
	UNIT A-10/9/02	10/9/2002	8:35	36076.4	5.53E+01	1.59E+01	3.37E+00	4.39E+01	1.65E+02	0.53	41.51	11.94	2.53	32.96	123.86	
	UNIT A-10/10/02	10/10/2002	8:00	36077.3	6.14E+01	1.75E+01	3.59E+00	5.05E+01	1.87E+02	1.50	152.75	43.54	8.93	125.64	465.23	
	UNIT A-10/14/02	10/14/2002	8:00	36081.3	5.57E+01	1.64E+01	5.15E+00	4.08E+01	1.61E+02	5.50	139.25	41.00	12.88	102.00	402.50	
	UNIT A-10/15/02	10/15/2002	8:00	36082.3	5.75E+01	1.60E+01	4.42E+00	4.01E+01	1.56E+02	6.50	57.50	16.00	4.42	40.10	156.00	
	UNIT A-10/16/02	10/16/2002	8:00	36083.3	6.11E+01	1.58E+01	3.97E+00	4.42E+01	1.52E+02	7.50	61.10	15.80	3.97	44.20	152.00	
	UNIT A-10/17/02	10/17/2002	8:00	36084.3	5.22E+01	1.44E+01	3.61E+00	4.06E+01	1.50E+02	8.50	156.60	43.20	10.83	121.80	450.00	
	STOP	10/22/2002	8:00	36089.3	4.78E+01	1.33E+01	4.70E+00	3.40E+01	1.34E+02	13.50	119.50	33.25	11.75	85.00	335.00	
UNIT A-11	START	10/30/2002	15:53	36097.7	6.59E+01	1.73E+01	3.81E+00	4.66E+01	1.87E+02	0.00	22.13	5.81	1.28	15.65	62.79	
	UNIT A-10/31/02	10/31/2002	8:00	36098.3	6.47E+01	1.74E+01	3.76E+00	5.38E+01	1.88E+02	0.67	153.03	41.16	8.89	127.25	444.67	
	UNIT A-11/4/02	11/4/2002	9:25	36102.4	7.12E+01	2.19E+01	5.15E+00	6.59E+01	2.41E+02	4.73	179.73	55.28	13.00	166.35	608.36	
	UNIT A-11/5/02	11/5/2002	9:10	36103.4	5.58E+01	1.22E+01	2.89E+00	4.06E+01	1.17E+02	5.72	54.48	11.91	2.82	39.64	114.24	
	UNIT A-11/6/02	11/6/2002	8:17	36104.3	4.54E+01	1.10E+01	2.70E+00	3.12E+01	1.01E+02	6.68	44.30	10.73	2.63	30.44	98.55	
	STOP	11/7/2002	8:00	36105.3	6.27E+01	2.01E+01	4.65E+00	6.12E+01	2.20E+02	7.67	30.98	9.93	2.30	30.24	108.70	
	START	11/7/2002	14:31	36105.6	4.02E+01	8.99E+00	4.28E+00	2.94E+01	7.42E+01	0.00	74.94	16.76	7.98	54.81	138.33	
	UNIT A-11/11/02	11/11/2002	8:00	36109.3	4.02E+01	8.99E+00	4.28E+00	2.94E+01	7.42E+01	3.73	95.04	21.25	10.12	69.51	175.43	
UNIT A-11/12/02	11/12/2002	8:00	36110.3	4.26E+01	1.11E+01	4.02E+00	3.04E+01	9.31E+01	4.73	42.60	11.10	4.02	30.40	93.10		
UNIT A-11/13/02	11/13/2002	8:00	36111.3	5.46E+01	1.90E+01	4.71E+00	4.09E+01	1.99E+02	5.73	54.60	19.00	4.71	40.90	199.00		
UNIT A-11/14/02	11/14/2002	8:00	36112.3	5.43E+01	1.52E+01	3.73E+00	4.07E+01	1.56E+02	6.73	138.05	38.64	9.48	103.47	396.61		
UNIT A-11/18/02	11/18/2002	10:02	36116.4	5.25E+01	1.23E+01	5.05E+00	3.54E+01	1.08E+02	10.81	132.34	31.01	12.73	89.24	272.25		
UNIT A-11/19/02	11/19/2002	9:00	36117.4	4.83E+01	1.26E+01	4.21E+00	3.24E+01	1.13E+02	11.77	46.46	12.12	4.05	31.16	108.68		
UNIT A-11/20/02	11/20/2002	8:12	36118.3	5.00E+01	1.39E+01	4.19E+00	3.33E+01	1.29E+02	12.74	48.96	13.61	4.10	32.61	126.31		
UNIT A-11/21/02	11/21/2002	8:00	36119.3	5.62E+01	1.88E+01	4.68E+00	4.12E+01	1.98E+02	13.73	142.18	47.56	11.84	104.23	500.91		
UNIT A-11/25/02	11/25/2002	9:38	36123.4	4.01E+01	9.70E+00	4.67E+00	2.72E+01	8.57E+01	17.80	101.50	24.55	11.82	68.85	216.93		
UNIT A-11/26/02	11/26/2002	9:30	36124.4	3.76E+01	9.98E+00	3.86E+00	2.53E+01	8.65E+01	18.79	36.32	9.64	3.73	24.44	83.56		

Table C-1. (continued).

Actual Data										Riemann Sums				
Identifier Number	Sample Date	Sample Time	Decimal Date	CHCl <sub>3</sub> (ppmv)	TCA (ppmv)	PCE (ppmv)	TCE (ppmv)	CCl <sub>4</sub> (ppmv)	Number of Days	CHCl <sub>3</sub> (ppmv×day)	1,1,1-TCA (ppmv×day)	PCE (ppmv×day)	TCE (ppmv×day)	CCl <sub>4</sub> (ppmv×day)
UNIT A-11/27/02	11/27/2002	8:00	36125.3	3.29E+01	8.14E+00	3.14E+00	2.18E+01	6.85E+01	19.73	98.70	24.42	9.42	65.40	205.50
UNIT A-12/2/02	12/2/2002	9:30	36130.4	4.68E+01	1.20E+01	4.12E+00	3.26E+01	1.11E+02	24.79	141.13	36.19	12.42	98.31	334.73
UNIT A-12/3/02	12/3/2002	8:45	36131.4	4.31E+01	1.09E+01	3.43E+00	2.84E+01	9.67E+01	25.76	42.65	10.79	3.41	28.10	95.69
UNIT A-12/4/02	12/4/2002	9:00	36132.4	4.11E+01	1.02E+01	3.10E+00	2.72E+01	8.93E+01	26.77	40.46	10.04	3.05	26.78	87.90
UNIT A-12/5/02	12/5/2002	8:00	36133.3	3.76E+01	9.95E+00	2.97E+00	2.58E+01	9.01E+01	27.73	94.33	24.96	7.45	64.72	226.03
UNIT A-12/9/02	12/9/2002	9:25	36137.4	3.61E+01	1.22E+01	4.76E+00	2.61E+01	1.24E+02	31.79	91.50	30.92	12.07	66.16	314.31
UNIT A-12/10/02	12/10/2002	9:40	36138.4	5.45E+01	1.64E+01	4.87E+00	4.87E+01	1.71E+02	32.80	54.41	16.37	4.86	48.62	170.70
UNIT A-12/11/02	12/11/2002	9:20	36139.4	4.77E+01	1.23E+01	3.64E+00	4.07E+01	1.25E+02	33.78	46.04	11.87	3.51	39.29	120.66
UNIT A-12/12/02	12/12/2002	8:00	36140.3	4.39E+01	1.04E+01	3.09E+00	3.36E+01	9.91E+01	34.73	110.05	26.07	7.75	84.23	248.44
UNIT A-12/16/02	12/16/2002	9:40	36144.4	5.26E+01	1.66E+01	4.62E+00	4.38E+01	1.77E+02	38.80	132.41	41.79	11.63	110.26	445.57
UNIT A-12/17/02	12/17/2002	8:50	36145.4	5.09E+01	1.22E+01	3.61E+00	4.04E+01	1.21E+02	39.76	50.46	12.09	3.58	40.05	119.95
UNIT A-12/18/02	12/18/2002	9:15	36146.4	3.79E+01	7.64E+00	2.37E+00	2.63E+01	6.56E+01	40.78	37.24	7.51	2.33	25.84	64.46
UNIT A-12/19/02	12/19/2002	8:00	36147.3	3.37E+01	7.96E+00	2.36E+00	2.24E+01	6.75E+01	41.73	229.41	54.19	16.07	152.48	459.49
STOP	12/31/2002	23:59	36160.0	3.37E+01	7.96E+00	2.36E+00	2.24E+01	6.75E+01	54.40	213.43	50.41	14.95	141.87	427.50
<b>Total days</b>										155.96	6,826	1,852	562	17,760
avg/day										44	12	4	32	114
										(ft <sup>3</sup> )	3,932	1,067	324	2,843
										n	4,545	1,233	375	3286
										(lb)	1,196	363	137	952
<b>Total (lb)</b>										6,657	<b>Total hours</b>		3,743.15	

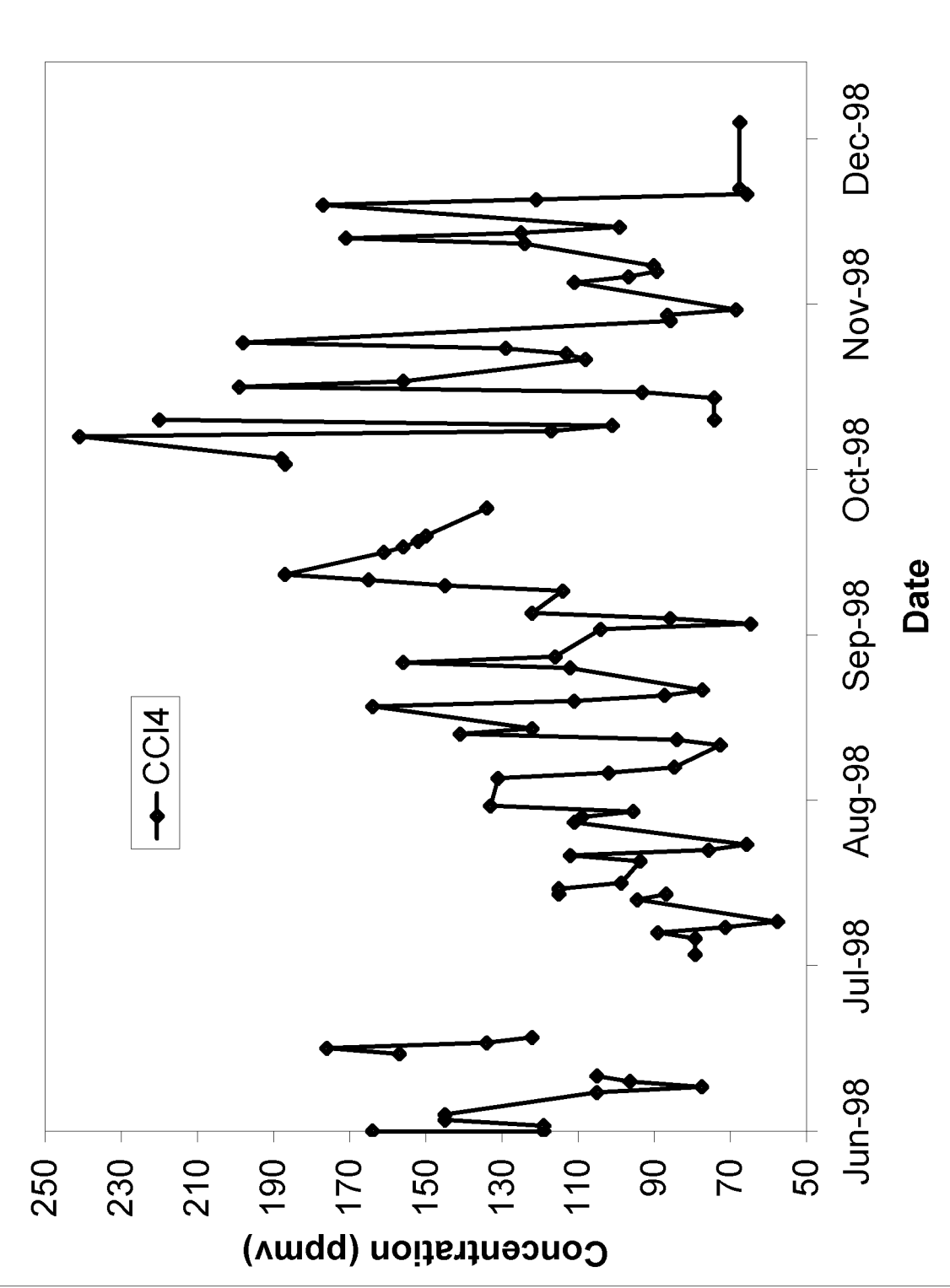


Figure C-1. Unit A end-year 2002 inlet carbon tetrachloride sample concentration.

Table C-2. Unit B end-year 2002 mass removal calculations.

Actual Data																Riemann Sums				
Identifier Number	Sample Date	Sample Time	Decimal	CHCl <sub>3</sub> (ppmv)	TCA (ppmv)	PCE (ppmv)	TCE (ppmv)	CCl <sub>4</sub> (ppmv)	Number of Days	CHCl <sub>3</sub> (ppmv×day)	1,1,1-TCA (ppmv×day)	PCE (ppmv×day)	TCE (ppmv×day)	CCl <sub>4</sub> (ppmv×day)						
START	7/2/2002	18:48	35977.8	1.69E+01	6.21E+00	2.51E+00	1.80E+01	4.87E+01	0.00	4.65	1.71	0.69	4.95	13.39						
UNIT B-7/3/02	7/3/2002	8:00	35978.3	2.51E+01	9.84E+00	4.43E+00	2.53E+01	6.41E+01	0.55	19.45	7.63	3.43	19.61	49.68						
UNIT B-7/4/02	7/4/2002	8:00	35979.3	2.51E+01	9.84E+00	4.43E+00	2.53E+01	6.41E+01	1.55	63.53	24.91	11.21	64.04	162.25						
UNIT B-7/8/02	7/8/2002	9:30	35983.4	2.96E+01	1.10E+01	4.28E+00	3.01E+01	8.36E+01	5.61	74.10	27.54	10.71	75.35	209.29						
UNIT B-7/9/02	7/9/2002	8:10	35984.3	2.76E+01	8.71E+00	3.22E+00	2.27E+01	6.75E+01	6.56	27.22	8.59	3.18	22.38	66.56						
UNIT B-7/10/02	7/10/2002	8:50	35985.4	2.69E+01	9.76E+00	3.70E+00	2.52E+01	7.55E+01	7.58	26.81	9.73	3.69	25.11	75.24						
UNIT B-7/11/02	7/11/2002	8:00	35986.3	3.06E+01	1.14E+01	4.39E+00	3.35E+01	8.90E+01	8.55	22.47	8.37	3.22	24.60	65.36						
STOP	7/11/2002	20:05	35986.8	3.06E+01	1.14E+01	4.39E+00	3.35E+01	8.90E+01	9.05	7.70	2.87	1.11	8.43	22.40						
START	7/16/2002	13:45	35991.6	3.98E+01	1.57E+01	5.45E+00	3.84E+01	1.32E+02	0.00	14.97	5.90	2.05	14.44	49.64						
UNIT B-7/17/02	7/17/2002	7:48	35992.3	3.25E+01	1.21E+01	4.80E+00	3.18E+01	9.31E+01	0.75	28.61	10.65	4.23	27.99	81.95						
UNIT B-7/18/02	7/18/2002	8:00	35993.3	3.21E+01	1.18E+01	4.75E+00	3.13E+01	9.22E+01	1.76	81.03	29.79	11.99	79.01	232.74						
UNIT B-7/22/02	7/22/2002	8:58	35997.4	4.32E+01	1.37E+01	4.57E+00	3.66E+01	1.20E+02	5.80	108.46	34.40	11.47	91.89	301.29						
UNIT B-7/23/02	7/23/2002	8:31	35998.4	4.39E+01	1.39E+01	4.65E+00	3.86E+01	1.23E+02	6.78	44.01	13.93	4.66	38.69	123.30						
UNIT B-7/24/02	7/24/2002	9:05	35999.4	4.40E+01	1.38E+01	4.58E+00	3.88E+01	1.23E+02	7.81	43.53	13.65	4.53	38.38	121.68						
UNIT B-7/25/02	7/25/2002	8:00	36000.3	4.45E+01	1.29E+01	4.03E+00	3.68E+01	1.19E+02	8.76	110.79	32.12	10.03	91.62	296.26						
UNIT B-7/29/02	7/29/2002	8:35	36004.4	4.22E+01	1.24E+01	4.08E+00	3.29E+01	1.12E+02	12.78	105.21	30.91	10.17	82.02	279.22						
UNIT B-7/30/02	7/30/2002	7:40	36005.3	4.43E+01	1.29E+01	4.17E+00	3.66E+01	1.20E+02	13.75	43.92	12.79	4.13	36.28	118.96						
UNIT B-7/31/02	7/31/2002	8:10	36006.3	4.84E+01	1.50E+01	4.60E+00	4.13E+01	1.41E+02	14.77	56.94	17.65	5.41	48.58	165.87						
STOP	8/1/2002	16:08	36007.7	4.08E+01	1.06E+01	3.35E+00	3.10E+01	9.61E+01	16.10	27.17	7.06	2.23	20.65	64.00						
START	8/2/2002	13:15	36008.6	4.08E+01	1.06E+01	3.35E+00	3.10E+01	9.61E+01	0.00	56.88	14.78	4.67	43.22	133.97						
UNIT B-8/5/02	8/5/2002	8:10	36011.3	3.46E+01	1.07E+01	3.88E+00	3.21E+01	9.25E+01	2.79	65.39	20.22	7.33	60.67	174.82						
UNIT B-8/6/02	8/6/2002	7:58	36012.3	3.66E+01	1.16E+01	4.34E+00	3.67E+01	1.01E+02	3.78	36.73	11.64	4.36	36.83	101.35						
UNIT B-8/7/02	8/7/2002	8:20	36013.3	3.21E+01	9.72E+00	3.36E+00	2.96E+01	8.34E+01	4.80	32.12	9.73	3.36	29.62	83.46						
UNIT B-8/8/02	8/8/2002	8:00	36014.3	3.15E+01	8.89E+00	3.12E+00	2.70E+01	7.85E+01	5.78	79.13	22.33	7.84	67.83	197.20						
UNIT B-8/12/02	8/12/2002	8:55	36018.4	3.07E+01	9.44E+00	3.60E+00	3.06E+01	7.57E+01	9.82	76.74	23.60	9.00	76.49	189.22						
UNIT B-8/13/02	8/13/2002	7:59	36019.3	2.92E+01	8.89E+00	3.46E+00	2.82E+01	7.10E+01	10.78	29.93	9.11	3.55	28.90	72.77						
UNIT B-8/14/02	8/14/2002	10:07	36020.4	3.35E+01	1.16E+01	4.48E+00	3.55E+01	9.35E+01	11.87	33.51	11.60	4.48	35.51	93.53						

Table C-2. (continued).

Actual Data															Riemann Sums				
Identifier Number	Sample Date	Sample Time	Decimal Date	CHCl <sub>3</sub> (ppmv)	TCA (ppmv)	PCE (ppmv)	TCE (ppmv)	CCl <sub>4</sub> (ppmv)	Number of Days	CHCl <sub>3</sub> (ppmv×day)	1,1,1-TCA (ppmv×day)	PCE (ppmv×day)	TCE (ppmv×day)	CCl <sub>4</sub> (ppmv×day)					
UNIT B-8/15/02	8/15/2002	8:00	36021.3	3.12E+01	9.73E+00	3.80E+00	3.27E+01	7.87E+01	12.78	76.98	24.01	9.38	80.68	194.18					
UNIT B-8/19/02	8/19/2002	8:33	36025.4	3.03E+01	1.03E+01	3.50E+00	2.77E+01	7.91E+01	16.80	75.95	25.82	8.77	69.43	198.27					
UNIT B-8/20/02	8/20/2002	8:19	36026.3	3.40E+01	1.18E+01	4.34E+00	3.48E+01	9.20E+01	17.79	33.04	11.47	4.22	33.82	89.41					
UNIT B-8/21/02	8/21/2002	7:12	36027.3	3.01E+01	9.22E+00	3.25E+00	2.75E+01	7.11E+01	18.75	29.90	9.16	3.23	27.32	70.63					
UNIT B-8/22/02	8/22/2002	8:00	36028.3	2.87E+01	8.52E+00	3.07E+00	2.44E+01	6.84E+01	19.78	72.53	21.53	7.76	61.66	172.85					
UNIT B-8/26/02	8/26/2002	8:30	36032.4	3.23E+01	1.10E+01	3.68E+00	3.18E+01	8.82E+01	23.80	81.23	27.66	9.25	79.97	221.82					
UNIT B-8/27/02	8/27/2002	8:43	36033.4	3.18E+01	1.07E+01	3.60E+00	3.15E+01	8.47E+01	24.81	31.97	10.76	3.62	31.66	85.14					
UNIT B-8/28/02	8/28/2002	8:45	36034.4	3.05E+01	1.03E+01	3.42E+00	2.96E+01	7.78E+01	25.81	30.04	10.15	3.37	29.16	76.64					
UNIT B-8/29/02	8/29/2002	8:00	36035.3	3.17E+01	1.11E+01	4.29E+00	3.53E+01	8.92E+01	26.78	95.27	33.36	12.89	106.08	268.06					
UNIT B-9/3/02	9/3/2002	9:00	36040.4	3.39E+01	1.17E+01	5.02E+00	3.41E+01	9.15E+01	31.82	101.76	35.12	15.07	102.36	274.66					
UNIT B-9/4/02	9/4/2002	8:05	36041.3	3.23E+01	1.04E+01	4.09E+00	3.19E+01	8.05E+01	32.78	31.63	10.18	4.00	31.24	78.82					
UNIT B-9/5/02	9/5/2002	8:00	36042.3	2.94E+01	9.70E+00	3.92E+00	2.95E+01	7.61E+01	33.78	73.50	24.25	9.80	73.75	190.25					
UNIT B-9/9/02	9/9/2002	8:05	36046.3	2.76E+01	8.95E+00	3.41E+00	2.25E+01	7.21E+01	37.78	68.81	22.31	8.50	56.09	179.75					
UNIT B-9/10/02	9/10/2002	7:40	36047.3	2.91E+01	1.02E+01	3.86E+00	2.55E+01	8.28E+01	38.77	28.90	10.13	3.83	25.32	82.22					
UNIT B-9/11/02	9/11/2002	7:45	36048.3	3.34E+01	1.25E+01	4.75E+00	3.60E+01	1.02E+02	39.77	33.63	12.59	4.78	36.25	102.71					
UNIT B-9/12/02	9/12/2002	8:00	36049.3	3.21E+01	1.13E+01	4.59E+00	3.58E+01	9.33E+01	40.78	80.62	28.38	11.53	89.91	234.32					
UNIT B-9/16/02	9/16/2002	8:18	36053.3	3.17E+01	1.26E+01	5.10E+00	3.49E+01	1.02E+02	44.79	79.88	31.75	12.85	87.94	257.02					
UNIT B-9/17/02	9/17/2002	8:57	36054.4	3.31E+01	1.21E+01	5.06E+00	3.65E+01	9.87E+01	45.82	33.32	12.18	5.09	36.74	99.35					
UNIT B-9/18/02	9/18/2002	8:37	36055.4	2.97E+01	9.12E+00	3.61E+00	2.89E+01	7.30E+01	46.81	29.11	8.94	3.54	28.33	71.56					
UNIT B-9/19/02	9/19/2002	8:00	36056.3	2.71E+01	8.66E+00	3.50E+00	2.52E+01	7.20E+01	47.78	67.28	21.50	8.69	62.56	178.75					
UNIT B-9/23/02	9/23/2002	7:47	36060.3	3.07E+01	1.12E+01	4.18E+00	3.09E+01	9.42E+01	51.77	76.89	28.05	10.47	77.39	235.93					
UNIT B-9/24/02	9/24/2002	8:13	36061.3	3.51E+01	1.35E+01	5.08E+00	4.05E+01	1.16E+02	52.79	35.53	13.66	5.14	40.99	117.41					
UNIT B-9/25/02	9/25/2002	8:22	36062.3	3.43E+01	1.19E+01	4.57E+00	3.72E+01	1.01E+02	53.80	114.17	39.61	15.21	123.82	336.18					
UNIT D-9/30/02	9/30/2002	23:59	36068.0	3.00E+01	1.08E+01	4.25E+00	3.27E+01	8.94E+01	59.45	84.77	30.52	12.01	92.40	252.62					
UNIT D-10/1/02	10/1/2002	0:00	36068.0	2.76E+01	9.44E+00	3.77E+00	2.67E+01	7.92E+01	59.45	18.41	6.30	2.51	17.81	52.83					
UNIT B-10/2/02	10/2/2002	8:00	36069.3	2.90E+01	1.04E+01	4.11E+00	2.99E+01	8.83E+01	60.78	33.83	12.13	4.80	34.88	103.02					
UNIT B-10/3/02	10/3/2002	8:00	36070.3	3.09E+01	1.18E+01	4.69E+00	3.59E+01	1.02E+02	61.78	77.98	29.78	11.84	90.60	257.41					
UNIT B-10/7/02	10/7/2002	9:08	36074.4	3.21E+01	1.26E+01	4.38E+00	3.39E+01	1.14E+02	65.83	83.93	32.94	11.45	88.63	298.06					
STOP	10/8/2002	13:30	36075.6	3.47E+01	1.37E+01	4.65E+00	4.01E+01	1.20E+02	67.01	20.51	8.10	2.75	23.70	70.92					

Table C-2. (continued).

Actual Data										Remann Sums				
Identifier Number	Sample Date	Sample Time	Decimal Date	CHCl <sub>3</sub> (ppmv)	TCA (ppmv)	PCE (ppmv)	TCE (ppmv)	CCl <sub>4</sub> (ppmv)	Number of Days	CHCl <sub>3</sub> (ppmv×day)	1,1,1-TCA (ppmv×day)	PCE (ppmv×day)	TCE (ppmv×day)	CCl <sub>4</sub> (ppmv×day)
<b>START</b>	10/8/2002	19:07	36075.8	3.47E+01	1.37E+01	4.65E+00	4.01E+01	1.20E+02	0.00	9.52	3.76	1.28	11.00	32.92
UNIT B-10/9/02	10/9/2002	8:17	36076.3	3.37E+01	1.29E+01	4.61E+00	3.90E+01	1.12E+02	0.55	25.90	9.91	3.54	29.97	86.06
UNIT B-10/10/02	10/10/2002	8:00	36077.3	3.36E+01	1.35E+01	5.33E+00	4.06E+01	1.15E+02	1.54	83.80	33.67	13.29	101.26	286.82
UNIT B-10/14/02	10/14/2002	8:00	36081.3	4.01E+01	1.50E+01	5.80E+00	4.17E+01	1.22E+02	5.54	100.25	37.50	14.50	104.25	305.00
UNIT B-10/15/02	10/15/2002	8:00	36082.3	3.80E+01	1.47E+01	5.79E+00	3.94E+01	1.16E+02	6.54	38.00	14.70	5.79	39.40	116.00
UNIT B-10/16/02	10/16/2002	8:00	36083.3	4.03E+01	1.43E+01	5.72E+00	4.04E+01	1.11E+02	7.54	40.30	14.30	5.72	40.40	111.00
UNIT B-10/17/02	10/17/2002	8:00	36084.3	3.52E+01	1.40E+01	5.89E+00	4.00E+01	1.12E+02	8.54	105.60	42.00	17.67	120.00	336.00
<b>STOP</b>	10/22/2002	8:00	36089.3	3.25E+01	1.27E+01	6.09E+00	3.48E+01	1.05E+02	13.54	81.25	31.75	15.23	87.00	262.50
<b>START</b>	10/29/2002	18:21	36096.8	1.13E+02	6.09E+01	1.59E+01	1.17E+02	7.42E+02	0.00	31.94	17.21	4.49	33.07	209.72
UNIT B-10/30/02	10/30/2002	7:55	36097.3	4.73E+01	2.03E+01	6.36E+00	5.10E+01	2.10E+02	0.57	37.10	15.92	4.99	40.00	164.72
UNIT B-10/31/02	10/31/2002	8:00	36098.3	3.78E+01	1.26E+01	4.33E+00	3.62E+01	1.18E+02	1.57	95.48	31.83	10.94	91.44	298.07
UNIT B-11/4/02	11/4/2002	9:10	36102.4	3.27E+01	1.59E+01	6.76E+00	3.78E+01	1.21E+02	5.62	82.17	39.95	16.99	94.99	304.05
UNIT B-11/5/02	11/5/2002	8:37	36103.4	4.05E+01	1.46E+01	5.54E+00	4.38E+01	1.34E+02	6.59	39.54	14.26	5.41	42.77	130.84
<b>STOP</b>	11/6/2002	8:02	36104.3	4.05E+01	1.46E+01	5.54E+00	4.38E+01	1.34E+02	7.57	19.76	7.12	2.70	21.37	65.37
<b>START</b>	11/6/2002	15:36	36104.7	2.68E+01	1.01E+01	4.09E+00	2.84E+01	8.38E+01	0.00	9.16	3.45	1.40	9.70	28.63
UNIT B-11/7/02	11/7/2002	8:00	36105.3	2.93E+01	1.51E+01	6.88E+00	3.23E+01	1.00E+02	0.68	68.61	35.36	16.11	75.64	234.17
UNIT B-11/11/02	11/11/2002	8:00	36109.3	3.05E+01	9.54E+00	4.02E+00	2.64E+01	7.96E+01	4.68	76.25	23.85	10.05	66.00	199.00
UNIT B-11/12/02	11/12/2002	8:00	36110.3	3.15E+01	1.12E+01	4.97E+00	2.90E+01	9.65E+01	5.68	31.50	11.20	4.97	29.00	96.50
UNIT B-11/13/02	11/13/2002	8:00	36111.3	3.59E+01	1.52E+01	6.07E+00	3.88E+01	1.22E+02	6.68	35.90	15.20	6.07	38.80	122.00
UNIT B-11/14/02	11/14/2002	8:00	36112.3	3.22E+01	1.30E+01	5.46E+00	3.55E+01	1.04E+02	7.68	81.73	33.00	13.86	90.11	263.97
UNIT B-11/18/02	11/18/2002	9:50	36116.4	2.57E+01	8.13E+00	3.46E+00	2.35E+01	6.52E+01	11.76	64.55	20.42	8.69	59.03	163.77
UNIT B-11/19/02	11/19/2002	8:34	36117.4	3.06E+01	1.10E+01	4.54E+00	2.91E+01	9.08E+01	12.71	29.69	10.67	4.40	28.23	88.09
UNIT B-11/20/02	11/20/2002	8:24	36118.4	2.97E+01	1.12E+01	4.74E+00	2.93E+01	9.53E+01	13.70	29.35	11.07	4.68	28.95	94.17
UNIT B-11/21/02	11/21/2002	8:00	36119.3	3.23E+01	1.50E+01	6.41E+00	4.02E+01	1.20E+02	14.68	81.24	37.73	16.12	101.11	301.83
UNIT B-11/25/02	11/25/2002	9:08	36123.4	2.94E+01	1.08E+01	4.78E+00	2.95E+01	9.20E+01	18.73	74.32	27.30	12.08	74.57	232.56
UNIT B-11/26/02	11/26/2002	9:20	36124.4	4.26E+01	1.59E+01	6.24E+00	4.57E+01	1.51E+02	19.74	41.59	15.52	6.09	44.62	147.43
UNIT B-11/27/02	11/27/2002	8:00	36125.3	4.74E+01	1.44E+01	5.68E+00	4.92E+01	1.31E+02	20.68	141.71	43.05	16.98	147.09	391.64
UNIT B-12/2/02	12/2/2002	8:50	36130.4	3.09E+01	1.21E+01	5.62E+00	3.23E+01	8.90E+01	25.72	93.08	36.45	16.93	97.29	268.08

Table C-2. (continued).

Actual Data										Remann Sums				
Identifier Number	Sample Date	Sample Time	Decimal Date	CHCl <sub>3</sub> (ppmv)	TCA (ppmv)	PCE (ppmv)	TCE (ppmv)	CCl <sub>4</sub> (ppmv)	Number of Days	CHCl <sub>3</sub> (ppmv×day)	1,1,1-TCA (ppmv×day)	PCE (ppmv×day)	TCE (ppmv×day)	CCl <sub>4</sub> (ppmv×day)
UNIT B-12/3/02	12/3/2002	8:35	36131.4	3.72E+01	1.39E+01	5.95E+00	3.96E+01	1.10E+02	26.71	36.75	13.73	5.88	39.12	108.66
UNIT B-12/4/02	12/4/2002	8:15	36132.3	3.34E+01	1.19E+01	4.99E+00	3.22E+01	9.15E+01	27.69	32.99	11.76	4.93	31.81	90.39
UNIT B-12/5/02	12/5/2002	8:00	36133.3	3.03E+01	1.11E+01	4.65E+00	3.09E+01	9.26E+01	28.68	76.01	27.85	11.67	77.52	232.30
UNIT B-12/9/02	12/9/2002	8:40	36137.4	2.88E+01	1.30E+01	5.69E+00	3.16E+01	1.01E+02	32.71	72.65	32.79	14.35	79.71	254.78
UNIT B-12/10/02	12/10/2002	9:05	36138.4	2.85E+01	1.44E+01	6.60E+00	3.28E+01	1.00E+02	33.73	28.60	14.45	6.62	32.91	100.35
UNIT B-12/11/02	12/11/2002	8:50	36139.4	2.67E+01	1.25E+01	6.02E+00	3.19E+01	9.13E+01	34.72	26.10	12.22	5.88	31.18	89.24
UNIT B-12/12/02	12/12/2002	8:00	36140.3	2.44E+01	1.00E+01	4.81E+00	2.74E+01	7.68E+01	35.68	61.25	25.10	12.08	68.79	192.80
UNIT B-12/16/02	12/16/2002	9:20	36144.4	2.26E+01	1.10E+01	5.51E+00	2.47E+01	6.63E+01	39.74	56.70	27.60	13.82	61.96	166.33
UNIT B-12/17/02	12/17/2002	8:25	36145.4	2.34E+01	1.06E+01	5.38E+00	2.58E+01	6.67E+01	40.70	23.12	10.47	5.32	25.50	65.91
UNIT B-12/18/02	12/18/2002	8:46	36146.4	2.46E+01	8.65E+00	3.74E+00	2.39E+01	6.78E+01	41.72	24.39	8.57	3.71	23.69	67.21
UNIT B-12/19/02	12/19/2002	8:00	36147.3	2.60E+01	9.50E+00	3.98E+00	2.33E+01	8.07E+01	42.68	73.84	26.98	11.30	66.17	229.18
<b>STOP</b>	12/24/2002	1:05	36152.0	2.60E+01	9.50E+00	3.98E+00	2.33E+01	8.07E+01	47.40	61.25	22.38	9.38	54.89	190.12
<b>START</b>	12/24/2002	18:00	36152.8	2.60E+01	9.50E+00	3.98E+00	2.33E+01	8.07E+01	0.00	6.84	2.50	1.05	6.13	21.24
<b>STOP</b>	12/25/2002	6:38	36153.3	2.60E+01	9.50E+00	3.98E+00	2.33E+01	8.07E+01	0.53	6.84	2.50	1.05	6.13	21.24
<b>START</b>	12/28/2002	18:04	36156.8	2.60E+01	9.50E+00	3.98E+00	2.33E+01	8.07E+01	0.00	42.21	15.42	6.46	37.83	131.02
<b>STOP</b>	12/31/2002	23:59	36160.0	2.60E+01	9.50E+00	3.98E+00	2.33E+01	8.07E+01	3.25	42.21	15.42	6.46	37.83	131.02
<b>Total days</b>										164.44	5,343	1,923	760	5,362
										avg/day	32	12	5	33
										(ft <sup>3</sup> )	3,078	1,108	438	3,088
										n	3,558	1,281	506	3,570
										(lb)	936	377	185	1,034
										<b>Total (lb)</b>	6,106	<b>Total hours</b>	3,946.53	

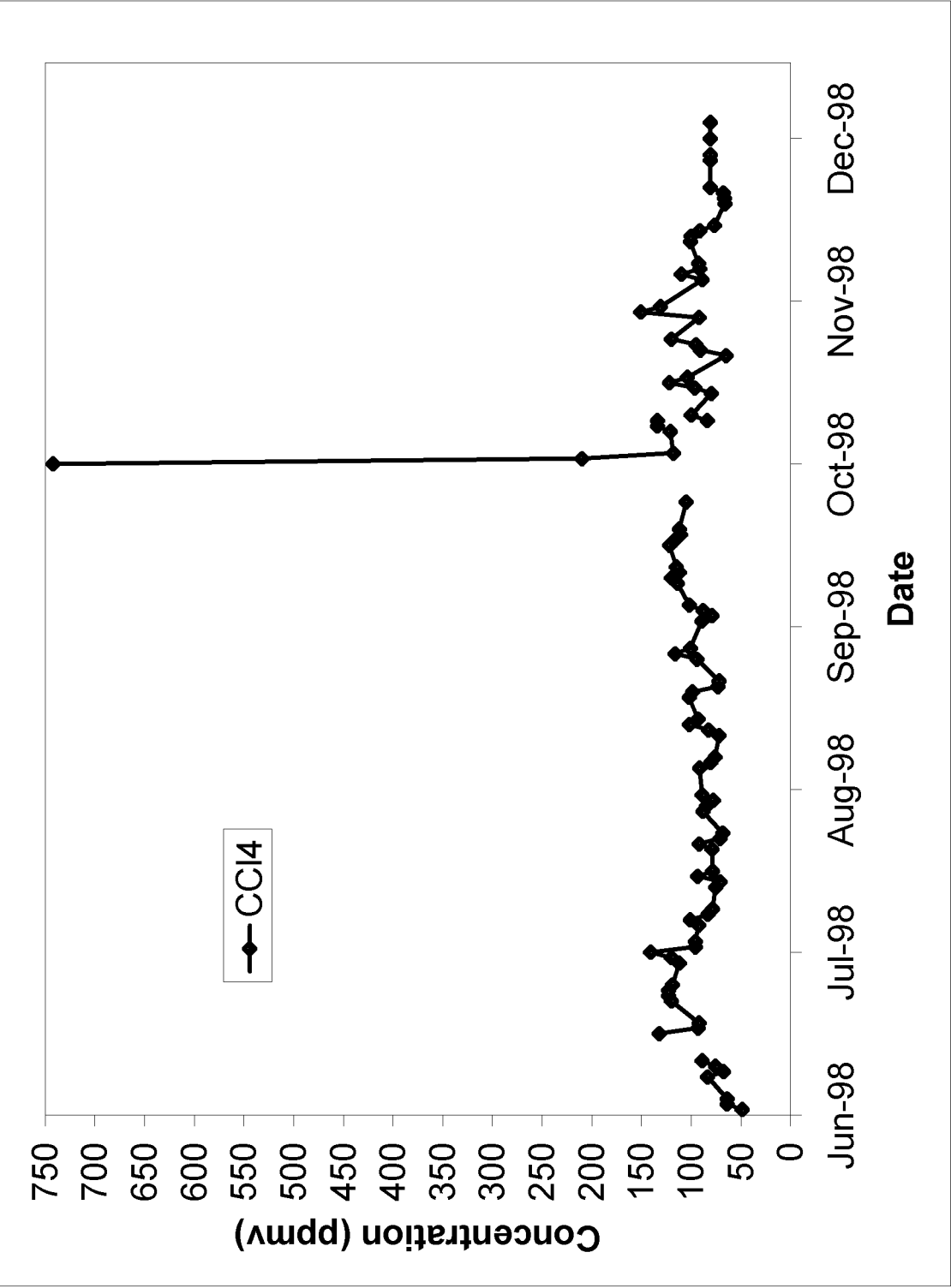


Figure C-2. Unit B end-year 2002 inlet carbon tetrachloride sample concentration.

Table C-3. Unit D end-year 2002 mass removal calculations.

Identifier Number		Actual data										Riemann sums				
		Sample Date	Sample Time	Decimal Date	CHCl <sub>3</sub> (ppmv)	TCA (ppmv)	PCE (ppmv)	TCE (ppmv)	CCl <sub>4</sub> (ppmv)	Number of Days	CHCl <sub>3</sub> (ppmv*day)	1,1,1-TCA (ppmv*day)	PCE (ppmv*day)	TCE (ppmv*day)	CCl <sub>4</sub> (ppmv*day)	
START	7/1/2002	0:00	35976.0	1.05E+01	7.72E+00	4.89E+00	1.79E+01	2.50E+01	0.00	0.00	1.91	1.41	0.89	3.26	4.56	
UNIT D-7/1/02	7/1/2002	8:45	35976.4	1.05E+01	7.72E+00	4.89E+00	1.79E+01	2.50E+01	0.36	0.36	9.13	6.71	4.25	15.57	21.74	
UNIT D-7/2/02	7/2/2002	17:45	35977.7	1.05E+01	8.05E+00	5.23E+00	1.83E+01	2.55E+01	1.74	1.74	11.28	8.65	5.62	19.66	27.39	
STOP	7/3/2002	12:19	35978.5	1.00E+01	8.04E+00	5.30E+00	1.88E+01	2.54E+01	2.51	2.51	3.87	3.11	2.05	7.27	9.82	
START	7/3/2002	15:48	35978.7	1.00E+01	8.04E+00	5.30E+00	1.88E+01	2.54E+01	0.00	0.00	3.38	2.71	1.79	6.35	8.57	
UNIT D-7/04/02	7/4/2002	8:00	35979.3	1.00E+01	8.04E+00	5.30E+00	1.88E+01	2.54E+01	0.68	0.68	23.41	18.82	12.41	44.01	59.46	
UNIT D-7/8/02	7/8/2002	8:10	35983.3	9.18E+00	6.54E+00	4.08E+00	1.47E+01	2.11E+01	4.68	4.68	22.99	16.38	10.22	36.81	52.84	
UNIT D-7/9/02	7/9/2002	8:12	35984.3	9.67E+00	8.62E+00	5.30E+00	1.81E+01	2.55E+01	5.68	5.68	9.85	8.78	5.40	18.45	25.99	
UNIT D-7/10/02	7/10/2002	9:05	35985.4	8.80E+00	6.94E+00	4.36E+00	1.47E+01	2.03E+01	6.72	6.72	8.76	6.91	4.34	14.64	20.22	
UNIT D-7/11/02	7/11/2002	8:00	35986.3	9.11E+00	6.79E+00	4.54E+00	1.58E+01	2.07E+01	7.68	7.68	6.64	4.95	3.31	11.52	15.09	
STOP	7/11/2002	20:05	35986.8	9.11E+00	6.79E+00	4.54E+00	1.58E+01	2.07E+01	8.18	8.18	2.29	1.71	1.14	3.98	5.21	
START	7/15/2002	10:50	35990.5	1.04E+01	8.61E+00	5.44E+00	1.96E+01	2.81E+01	0.00	0.00	4.85	4.01	2.53	9.13	13.09	
UNIT D-7/16/02	7/16/2002	9:12	35991.4	9.19E+00	6.87E+00	4.31E+00	1.55E+01	2.23E+01	0.93	0.93	11.26	8.42	5.28	19.00	27.33	
STOP	7/17/2002	21:40	35992.9	9.07E+00	6.59E+00	4.19E+00	1.46E+01	2.07E+01	2.45	2.45	6.89	5.01	3.18	11.09	15.73	
START	8/2/2002	9:50	36008.4	8.43E+00	6.45E+00	4.07E+00	1.49E+01	2.09E+01	0.00	0.00	12.41	9.50	5.99	21.94	30.77	
UNIT D-8/5/02	8/5/2002	8:30	36011.4	8.43E+00	6.45E+00	4.07E+00	1.49E+01	2.09E+01	2.94	2.94	16.59	12.69	8.01	29.32	41.13	
UNIT D-8/6/02	8/6/2002	8:18	36012.3	7.94E+00	6.20E+00	3.89E+00	1.41E+01	1.96E+01	3.94	3.94	7.80	6.09	3.82	13.85	19.25	
UNIT D-8/7/02	8/7/2002	7:39	36013.3	6.92E+00	5.40E+00	3.38E+00	1.21E+01	1.68E+01	4.91	4.91	6.88	5.37	3.36	12.02	16.70	
UNIT D-8/8/02	8/8/2002	8:00	36014.3	8.26E+00	7.36E+00	4.74E+00	1.73E+01	2.28E+01	5.92	5.92	20.90	18.62	11.99	43.77	57.68	
UNIT D-8/12/02	8/12/2002	9:05	36018.4	8.34E+00	6.02E+00	3.90E+00	1.39E+01	1.96E+01	9.97	9.97	20.90	15.09	9.77	34.83	49.12	
UNIT D-8/13/02	8/13/2002	8:17	36019.3	8.57E+00	6.50E+00	4.14E+00	1.42E+01	1.99E+01	10.94	10.94	8.77	6.65	4.24	14.54	20.37	
UNIT D-8/14/02	8/14/2002	10:13	36020.4	8.16E+00	6.11E+00	3.88E+00	1.32E+01	1.83E+01	12.02	12.02	8.11	6.07	3.85	13.11	18.18	
UNIT D-8/15/02	8/15/2002	7:58	36021.3	7.60E+00	5.54E+00	3.66E+00	1.29E+01	1.79E+01	12.92	12.92	18.70	13.63	9.00	31.73	44.04	
UNIT D-8/19/02	8/19/2002	8:18	36025.3	9.04E+00	6.12E+00	3.34E+00	1.16E+01	1.77E+01	16.94	16.94	22.70	15.37	8.39	29.12	44.44	
UNIT D-8/20/02	8/20/2002	8:29	36026.4	8.96E+00	5.96E+00	3.04E+00	1.06E+01	1.66E+01	17.94	17.94	8.80	5.85	2.98	10.40	16.29	
UNIT D-8/21/02	8/21/2002	7:25	36027.3	8.50E+00	6.10E+00	3.23E+00	1.14E+01	1.68E+01	18.90	18.90	8.41	6.04	3.20	11.29	16.63	

Table C-3. (continued).

Actual data										Riemann sums				
Sample	Sample	Decimal	CHCl <sub>3</sub>	TCA	PCE	TCE	CCl <sub>4</sub>	Number						
Identifier Number	Date	Time	Date	(ppmv)	(ppmv)	(ppmv)	(ppmv)	of Days		(ppmv*day)	(ppmv*day)	(ppmv*day)	(ppmv*day)	(ppmv*day)
UNIT D-8/22/02	8/22/2002	8:00	36028.3	9.06E+00	7.86E+00	4.54E+00	1.56E+01	19.92		22.90	19.87	11.48	39.43	54.60
UNIT D-8/26/02	8/26/2002	8:45	36032.4	9.92E+00	6.45E+00	3.38E+00	1.19E+01	23.95		25.00	16.25	8.52	29.99	44.35
UNIT D-8/27/02	8/27/2002	8:57	36033.4	9.00E+00	6.06E+00	3.24E+00	1.15E+01	24.96		9.12	6.14	3.28	11.66	16.42
UNIT D-8/28/02	8/28/2002	9:25	36034.4	8.81E+00	6.41E+00	3.50E+00	1.23E+01	25.98		8.64	6.28	3.43	12.06	16.66
UNIT D-8/29/02	8/29/2002	8:00	36035.3	7.85E+00	5.49E+00	3.28E+00	1.15E+01	26.92		23.41	16.37	9.78	34.30	46.23
UNIT D-9/3/02	9/3/2002	8:35	36040.4	9.35E+00	5.80E+00	3.47E+00	1.14E+01	31.95		28.09	17.43	10.43	34.25	47.47
UNIT D-9/4/02	9/4/2002	8:13	36041.3	8.55E+00	5.39E+00	3.25E+00	1.03E+01	32.93		8.45	5.32	3.21	10.17	14.23
UNIT D-9/5/02	9/5/2002	8:00	36042.3	7.67E+00	5.55E+00	3.56E+00	1.15E+01	33.92		19.18	13.88	8.90	28.76	39.26
UNIT D-9/9/02	9/9/2002	8:15	36046.3	8.92E+00	8.19E+00	4.88E+00	1.59E+01	37.93		22.28	20.45	12.19	39.71	58.68
UNIT D-9/10/02	9/10/2002	7:52	36047.3	6.27E+00	5.25E+00	3.10E+00	9.16E+00	38.92		6.23	5.21	3.08	9.10	13.11
UNIT D-9/11/02	9/11/2002	7:55	36048.3	8.79E+00	6.76E+00	4.04E+00	1.30E+01	39.92		8.81	6.78	4.05	13.04	17.45
UNIT D-9/12/02	9/12/2002	8:00	36049.3	8.12E+00	5.99E+00	3.69E+00	1.19E+01	40.92		20.40	15.05	9.27	29.90	39.45
UNIT D-9/16/02	9/16/2002	8:32	36053.4	6.22E+00	4.78E+00	2.95E+00	9.53E+00	44.95		16.99	13.05	8.06	26.03	38.23
UNIT D-9/17/02	9/17/2002	19:05	36054.8	8.08E+00	5.68E+00	3.59E+00	1.12E+01	46.39		8.14	5.73	3.62	11.29	16.33
UNIT D-9/18/02	9/18/2002	8:55	36055.4	8.31E+00	6.17E+00	3.60E+00	1.20E+01	46.96		6.39	4.75	2.77	9.23	13.38
UNIT D-9/19/02	9/19/2002	8:00	36056.3	8.24E+00	7.84E+00	4.78E+00	1.54E+01	47.92		20.51	19.52	11.90	38.34	54.52
UNIT D-9/23/02	9/23/2002	8:25	36060.4	4.63E+00	3.37E+00	1.98E+00	5.92E+00	51.94		11.62	8.46	4.97	14.86	22.51
UNIT D-9/24/02	9/24/2002	8:28	36061.4	9.35E+00	6.82E+00	3.97E+00	1.27E+01	52.94		9.40	6.86	3.99	12.77	17.89
UNIT D-9/25/02	9/25/2002	8:40	36062.4	7.68E+00	5.45E+00	3.48E+00	1.11E+01	53.95		25.52	18.11	11.56	36.89	50.85
UNIT D-9/30/02	9/30/2002	23:59	36068.0	7.41E+00	5.94E+00	3.73E+00	1.17E+01	59.59		20.89	16.75	10.52	32.99	46.80
UNIT D-10/1/02	10/1/2002	0:00	36068.0	4.86E+00	4.04E+00	2.51E+00	7.43E+00	59.59		3.24	2.69	1.67	4.96	7.54
UNIT D-10/2/02	10/2/2002	8:00	36069.3	8.02E+00	7.31E+00	4.41E+00	1.44E+01	60.92		9.36	8.53	5.15	16.80	24.15
UNIT D-10/3/02	10/3/2002	8:00	36070.3	7.74E+00	6.52E+00	4.03E+00	1.30E+01	61.92		19.48	16.41	10.14	32.73	44.81
UNIT D-10/7/02	10/7/2002	8:50	36074.4	1.07E+01	9.41E+00	5.43E+00	1.78E+01	65.96		27.98	24.60	14.20	46.54	69.29
UNIT D-10/8/02	10/8/2002	13:30	36075.6	5.76E+00	4.19E+00	2.52E+00	7.55E+00	67.15		3.44	2.50	1.51	4.51	6.63
<b>START</b>	10/8/2002	17:09	36075.7	5.76E+00	4.19E+00	2.52E+00	7.55E+00	0.00		1.84	1.34	0.81	2.41	3.55
UNIT D-10/9/02	10/9/2002	8:30	36076.4	9.16E+00	7.19E+00	4.27E+00	1.40E+01	0.64		7.41	5.82	3.46	11.33	16.03
UNIT D-10/10/02	10/10/2002	8:00	36077.3	9.74E+00	9.10E+00	5.24E+00	1.39E+01	1.62		24.25	22.66	13.05	34.61	46.80
UNIT D-10/14/02	10/14/2002	8:00	36081.3	8.47E+00	6.34E+00	3.99E+00	1.19E+01	5.62		21.18	15.85	9.98	29.75	44.25

Table C-3. (continued).

Actual data										Riemann sums				
Identifier Number	Sample Date	Sample Time	Decimal Date	CHCl <sub>3</sub> (ppmv)	TCA (ppmv)	PCE (ppmv)	TCE (ppmv)	CCl <sub>4</sub> (ppmv)	Number of Days	CHCl <sub>3</sub> (ppmv*day)	1,1,1-TCA (ppmv*day)	PCE (ppmv*day)	TCE (ppmv*day)	CCl <sub>4</sub> (ppmv*day)
UNIT D-10/15/02	10/15/2002	8:00	36082.3	1.06E+01	7.92E+00	4.98E+00	1.38E+01	2.00E+01	6.62	10.60	7.92	4.98	13.80	20.00
UNIT D-10/16/02	10/16/2002	8:00	36083.3	9.98E+00	7.47E+00	4.79E+00	1.40E+01	2.02E+01	7.62	9.98	7.47	4.79	14.00	20.20
UNIT D-10/17/02	10/17/2002	8:00	36084.3	8.93E+00	6.66E+00	4.35E+00	1.30E+01	1.76E+01	8.62	22.33	16.65	10.88	32.50	44.00
UNIT D-10/21/02	10/21/2002	8:00	36088.3	5.88E+00	4.99E+00	3.80E+00	9.41E+00	1.45E+01	12.62	14.70	12.48	9.50	23.53	36.25
UNIT D-10/22/02	10/22/2002	8:00	36089.3	6.70E+00	5.69E+00	3.85E+00	9.90E+00	1.46E+01	13.62	6.70	5.69	3.85	9.90	14.60
UNIT D-10/23/02	10/23/2002	8:00	36090.3	9.16E+00	8.41E+00	5.37E+00	1.59E+01	2.30E+01	14.62	9.16	8.41	5.37	15.90	23.00
UNIT D-10/24/02	10/24/2002	8:00	36091.3	8.45E+00	7.18E+00	4.80E+00	1.44E+01	2.01E+01	15.62	21.19	18.00	12.04	36.11	50.40
UNIT D-10/28/02	10/28/2002	8:22	36095.3	9.09E+00	7.47E+00	4.55E+00	1.46E+01	2.30E+01	19.63	22.79	18.73	11.41	36.60	57.66
UNIT D-10/29/02	10/29/2002	8:20	36096.3	6.91E+00	6.35E+00	3.81E+00	1.17E+01	1.92E+01	20.63	6.90	6.34	3.80	11.68	19.17
UNIT D-10/30/02	10/30/2002	8:17	36097.3	8.19E+00	7.28E+00	4.07E+00	1.26E+01	2.06E+01	21.63	8.13	7.23	4.04	12.51	20.46
UNIT D-10/31/02	10/31/2002	8:00	36098.3	1.09E+01	1.18E+01	6.90E+00	2.16E+01	3.48E+01	22.62	27.47	29.74	17.39	54.44	87.71
UNIT D-11/4/02	11/4/2002	9:16	36102.4	1.34E+01	1.17E+01	7.50E+00	2.18E+01	3.66E+01	26.67	33.74	29.46	18.89	54.89	92.16
UNIT D-11/5/02	11/5/2002	8:52	36103.4	1.25E+01	1.16E+01	7.10E+00	2.04E+01	3.64E+01	27.65	12.19	11.31	6.92	19.89	35.49
UNIT D-11/6/02	11/6/2002	8:04	36104.3	1.19E+01	1.25E+01	7.70E+00	2.25E+01	3.66E+01	28.62	11.69	12.27	7.56	22.09	35.94
UNIT D-11/7/02	11/7/2002	8:00	36105.3	1.18E+01	9.82E+00	6.29E+00	1.78E+01	2.61E+01	29.62	29.48	24.54	15.72	44.48	65.21
UNIT D-11/11/02	11/11/2002	8:00	36109.3	1.47E+01	1.52E+01	9.06E+00	3.78E+01	4.67E+01	33.62	36.75	38.00	22.65	94.50	116.75
UNIT D-11/12/02	11/12/2002	8:00	36110.3	1.24E+01	1.36E+01	8.02E+00	2.37E+01	3.82E+01	34.62	12.40	13.60	8.02	23.70	38.20
UNIT D-11/13/02	11/13/2002	8:00	36111.3	1.34E+01	1.19E+01	7.69E+00	2.27E+01	3.42E+01	35.62	13.40	11.90	7.69	22.70	34.20
UNIT D-11/14/02	11/14/2002	8:00	36112.3	1.31E+01	1.16E+01	7.53E+00	2.23E+01	3.47E+01	36.62	33.19	29.39	19.08	56.49	87.91
UNIT D-11/18/02	11/18/2002	9:36	36116.4	1.49E+01	1.67E+01	1.01E+01	3.04E+01	5.03E+01	40.69	37.48	42.01	25.41	76.48	126.54
UNIT D-11/19/02	11/19/2002	8:45	36117.4	1.16E+01	1.15E+01	7.39E+00	2.23E+01	3.25E+01	41.65	10.77	10.67	6.86	20.70	30.16
<b>STOP</b>	11/20/2002	6:09	36118.3	1.04E+01	1.02E+01	6.84E+00	2.04E+01	2.62E+01	42.54	4.64	4.55	3.05	9.09	11.68
<b>START</b>	11/20/2002	17:44	36118.7	1.04E+01	1.02E+01	6.84E+00	2.04E+01	2.62E+01	0.00	3.09	3.03	2.03	6.06	7.79
UNIT D-11/21/02	11/21/2002	8:00	36119.3	1.03E+01	1.02E+01	6.81E+00	2.04E+01	2.62E+01	0.59	23.93	23.70	15.82	47.39	60.87
UNIT D-11/25/02	11/25/2002	9:15	36123.4	1.02E+01	1.14E+01	7.26E+00	2.12E+01	3.28E+01	4.65	25.69	28.72	18.29	53.40	82.63
UNIT D-11/26/02	11/26/2002	8:55	36124.4	1.19E+01	1.28E+01	8.53E+00	2.46E+01	3.53E+01	5.63	11.59	12.47	8.31	23.96	34.38
UNIT D-11/27/02	11/27/2002	8:00	36125.3	1.07E+01	9.51E+00	6.52E+00	1.83E+01	2.59E+01	6.59	32.17	28.60	19.61	55.03	77.88
UNIT D-12/2/02	12/2/2002	9:15	36130.4	1.29E+01	1.08E+01	6.66E+00	1.93E+01	3.03E+01	11.65	38.79	32.47	20.03	58.03	91.11
<b>STOP</b>	12/3/2002	8:20	36131.3	1.08E+01	8.58E+00	5.48E+00	1.59E+01	2.27E+01	12.61	5.19	4.13	2.64	7.65	10.92

Table C-3. (continued).

Actual data															Riemann sums				
Identifier Number	Sample Date	Sample Time	Decimal Date	CHCl <sub>3</sub> (ppmv)	TCA (ppmv)	PCE (ppmv)	TCE (ppmv)	CCl <sub>4</sub> (ppmv)	Number of Days	CHCl <sub>3</sub> (ppmv*day)	1,1,1-TCA (ppmv*day)	PCE (ppmv*day)	TCE (ppmv*day)	CCl <sub>4</sub> (ppmv*day)					
START	12/3/2002	15:29	36131.6	1.08E+01	8.58E+00	5.48E+00	1.59E+01	2.27E+01	0.00	3.84	3.05	1.95	5.65	8.06					
UNIT D-12/4/02	12/4/2002	8:32	36132.4	1.19E+01	1.06E+01	6.42E+00	1.82E+01	2.79E+01	0.71	10.04	8.95	5.42	15.36	23.55					
UNIT D-12/5/02	12/5/2002	8:00	36133.3	1.06E+01	1.09E+01	7.06E+00	2.07E+01	3.00E+01	1.69	26.60	27.36	17.72	51.95	75.29					
UNIT D-12/9/02	12/9/2002	9:00	36137.4	9.20E+00	9.15E+00	5.66E+00	1.62E+01	2.43E+01	5.73	23.27	23.15	14.32	40.98	61.47					
UNIT D-12/10/02	12/10/2002	9:25	36138.4	9.90E+00	9.57E+00	6.10E+00	1.71E+01	2.54E+01	6.75	9.93	9.60	6.12	17.16	25.49					
UNIT D-12/11/02	12/11/2002	9:10	36139.4	8.97E+00	7.60E+00	4.99E+00	1.35E+01	2.02E+01	7.74	8.71	7.38	4.84	13.10	19.60					
UNIT D-12/12/02	12/12/2002	8:00	36140.3	9.67E+00	9.51E+00	5.87E+00	1.67E+01	2.47E+01	8.69	24.18	23.78	14.68	41.75	61.75					
UNIT D-12/16/02	12/16/2002	9:10	36144.4	1.06E+01	8.19E+00	4.81E+00	1.35E+01	2.15E+01	12.74	26.64	20.58	12.09	33.92	54.03					
UNIT D-12/17/02	12/17/2002	8:37	36145.4	1.02E+01	7.74E+00	4.51E+00	1.30E+01	2.22E+01	13.71	10.16	7.71	4.49	12.95	22.12					
UNIT D-12/18/02	12/18/2002	9:00	36146.4	1.00E+01	9.94E+00	5.91E+00	1.80E+01	2.86E+01	14.73	9.87	9.81	5.83	17.77	28.23					
UNIT D-12/19/02	12/19/2002	8:00	36147.3	1.36E+01	1.60E+01	9.70E+00	2.99E+01	4.13E+01	15.69	92.65	109.00	66.08	203.69	281.36					
STOP	12/31/2002	23:59	36160.0	1.36E+01	1.60E+01	9.70E+00	2.99E+01	4.13E+01	28.35	86.13	101.33	61.43	189.37	261.57					
Total days										163.80	1,596	1412	874	2,746	3,969				
										avg/day	10	9	5	17	24				
										(ft <sup>3</sup> )	919	814	503	1,582	2,286				
										n	1,062	940	582	1,828	2,643				
										(lb)	280	277	213	530	896				
Total (lb)										2,195			Total hours		3,931.22				

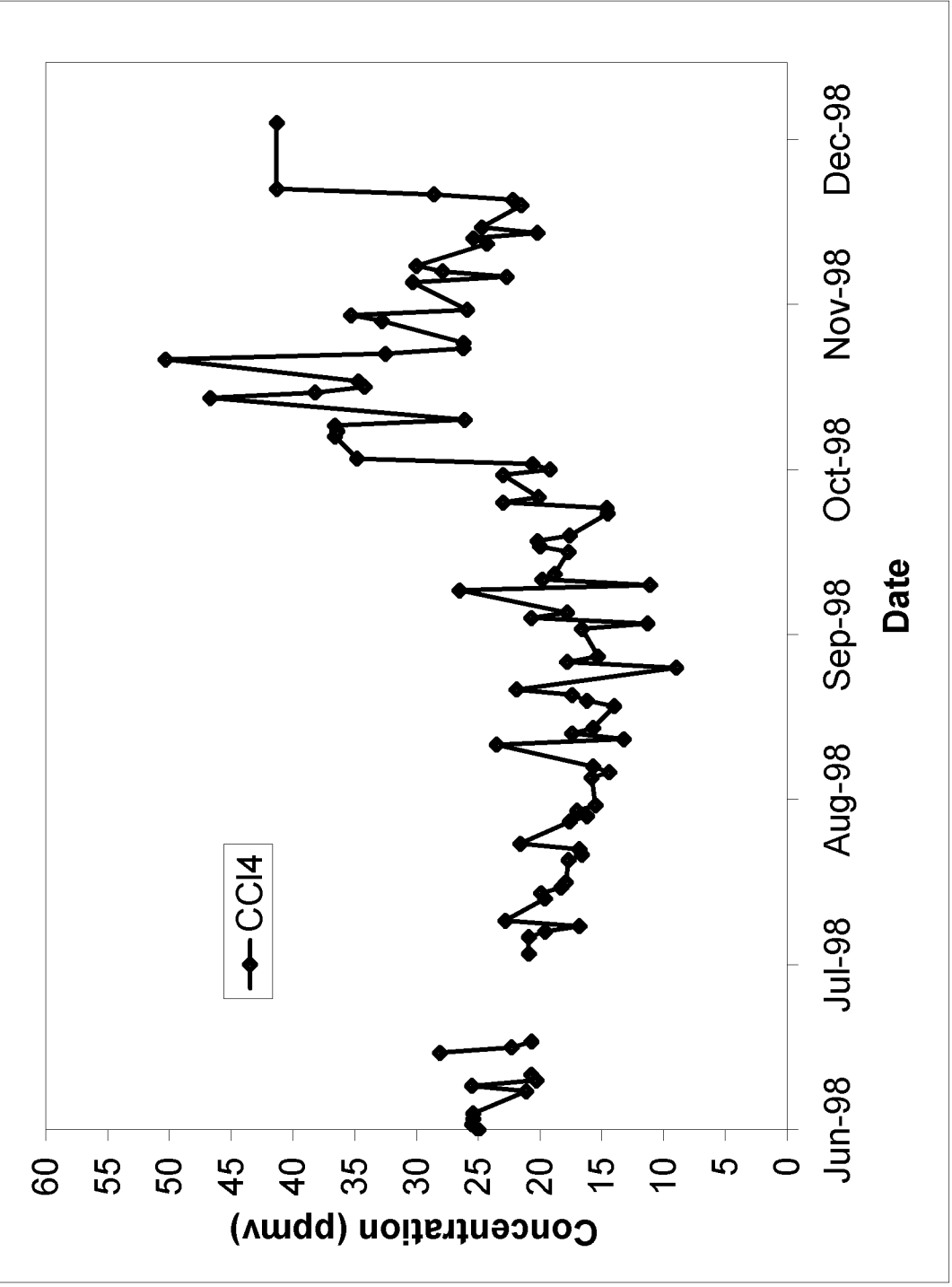


Figure C-3. Unit D end-year 2002 inlet carbon tetrachloride sample concentration.

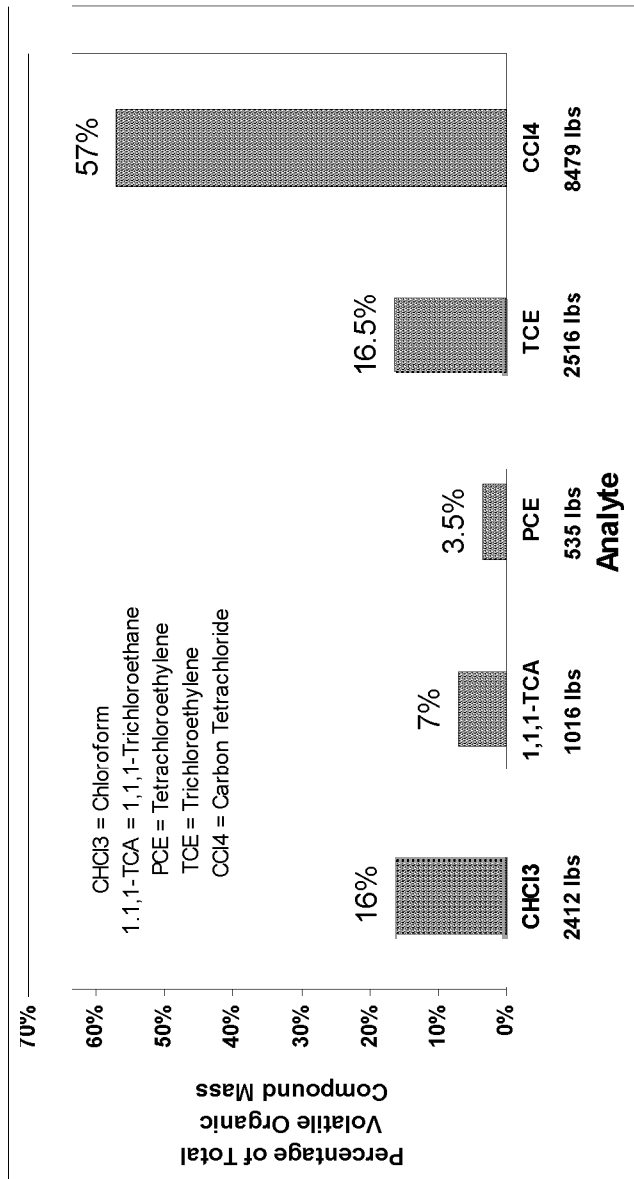


Figure C-4. Analyte mass contribution to total volatile organic compound mass during the end-year 2002 reporting period.

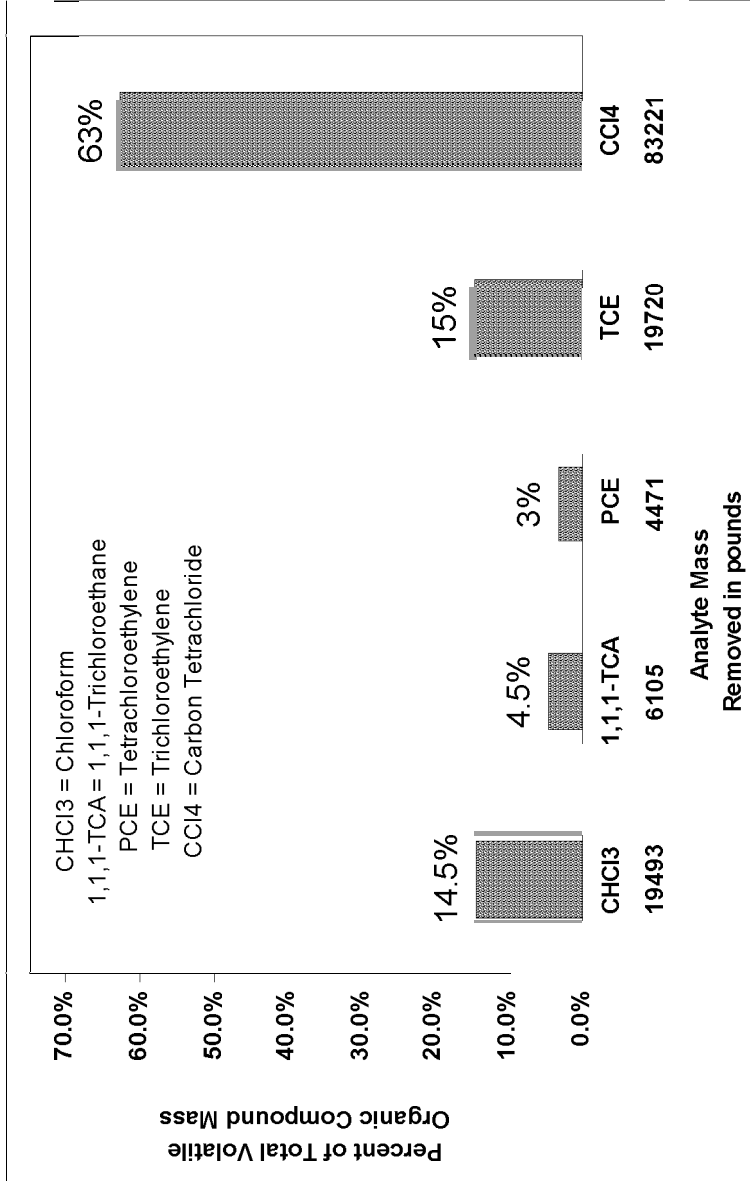


Figure C-5. Analyte mass contribution to total volatile organic compound mass (January 1996 through December 2002).

Table C-4. Breakdown per operating cycle of the mass of contaminants removed through December 2002.

Operating Period	Year	CHCl <sub>3</sub> (kg)	TCA (kg)	PCE (kg)	TCE (kg)	CCl <sub>4</sub> (kg)	Total (kg)
First 8 weeks	1996	510	151	106	461	2,277	3,505
Percentage of total		15%	4%	3%	13%	65%	
Second 8 weeks	1996	258	80	64	247	1,203	1,853
Percentage of total		14%	4%	3%	13%	65%	
Third 8 weeks	1996	169	51	36	151	753	1,159
Percentage of total		15%	4%	3%	13%	65%	
First quarter	1997	196	48	28	142	857	1,270
Percentage of total		15%	4%	2%	11%	67%	
Second quarter	1997	497	165	134	494	2,393	3,684
Percentage of total		13%	4%	4%	13%	65%	
Third quarter	1997	291	54	65	273	1,266	1,949
Percentage of total		15%	3%	3%	14%	65%	
Fourth quarter	1997	547	155	110	449	2,452	3,713
Percentage of total		15%	4%	3%	12%	66%	
Midyear	1998	489	153	112	436	2,147	3,337
Percentage of total		15%	5%	3%	13%	64%	
End-Year	1998	674	175	191	714	2,768	4,523
Percentage of total		15%	4%	4%	16%	61%	
Midyear	1999	378	98	74	404	1,860	2,814
Percentage of total		13%	4%	3%	14%	66%	
End-Year	1999	514	178	163	637	2,490	3,982
Percentage of total		13%	4%	4%	16%	63%	
Midyear	2000	528	149	139	608	2,414	3,838
Percentage of total		14%	4%	4%	16%	63%	
End-Year	2000	286	58	31	257	1,331	1,964
Percentage of total		14%	3%	2%	13%	68%	
Midyear	2001	697	123	147	612	2,795	4,374
Percentage of total		16%	3%	3%	14%	64%	
End-Year	2001	777	232	151	837	3,320	5,317
Percentage of total		15%	4%	3%	16%	62%	
Midyear	2002	937	438	234	1,082	3,576	6,267
Percentage of total		15%	7%	4%	17%	57%	
End-Year	2002	1094	461	243	1141	3846	6785
Percentage of total		16%	7%	4%	17%	57%	
Total	1996-2002	8,842	2,769	2,028	8,945	37,748	60,332
Percentage of total		15%	5%	3%	15%	63%	

CHCl<sub>3</sub> = chloroform 1,1,1-TCA = 1,1,1-trichloroethane PCE = tetrachloroethene TCE = trichloroethene CCl<sub>4</sub> = carbon tetrachloride



**Appendix D**

**Spatial and Temporal Distribution of Volatile Organic  
Compounds in the Vadose Zone**



## Appendix D

### Spatial and Temporal Distribution of Volatile Organic Compounds in the Vadose Zone

The figures in Appendix D represent a horizontal cross-section of the distribution of the carbon tetrachloride ( $\text{CCl}_4$ ) concentration in the Subsurface Disposal Area at approximately 21 m (70 ft) bgs. Concentration values from four different sampling events were used to prepare the plots (1) before starting the remedial action in January 1996, (2) January 1998, (3) January 2000, and (4) in December 2002. The  $\text{CCl}_4$  concentration distribution was kriged<sup>a</sup> by using the Environmental Visualization System software program. Plots of current  $\text{CCl}_4$  vapor data, at approximately 21 m (70 ft) deep, indicate an overall decrease in the areal extent of the plume when compared to data taken before operations at the same depth. The vapor data also indicate a decrease in the  $\text{CCl}_4$  concentration at the center of the plume.

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a. Kriging is a method of linear regression that takes into account the spatial relationship of a series of points. In this case, concentrations are estimated between actual measured data points, providing insight into what the actual concentration profile might look like at any horizontal level in the contamination zone.

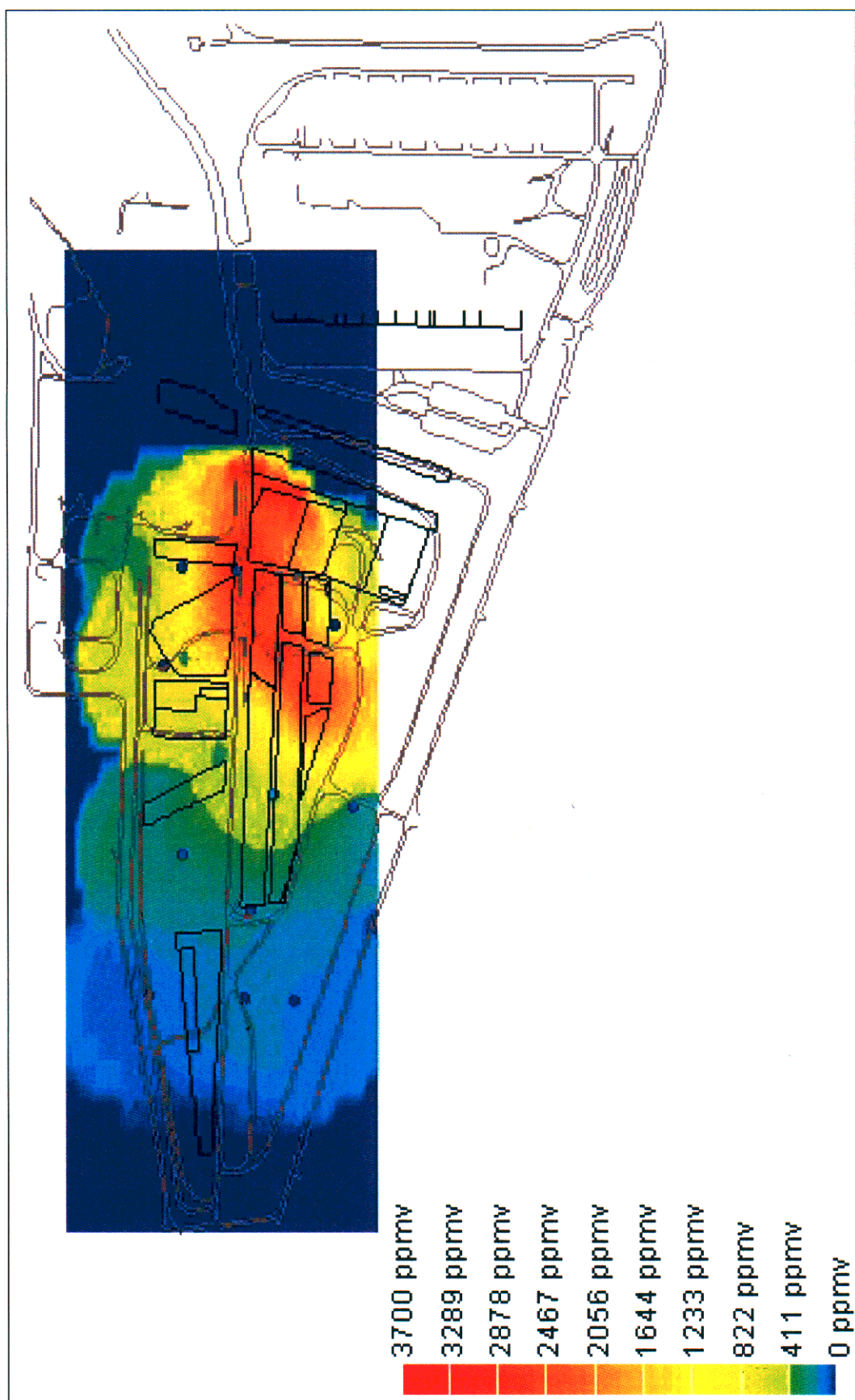


Figure D-1. Spatial distribution of volatile organic compounds in the Subsurface Disposal Area at approximately 21 m (70 ft) below ground surface in January 1996.

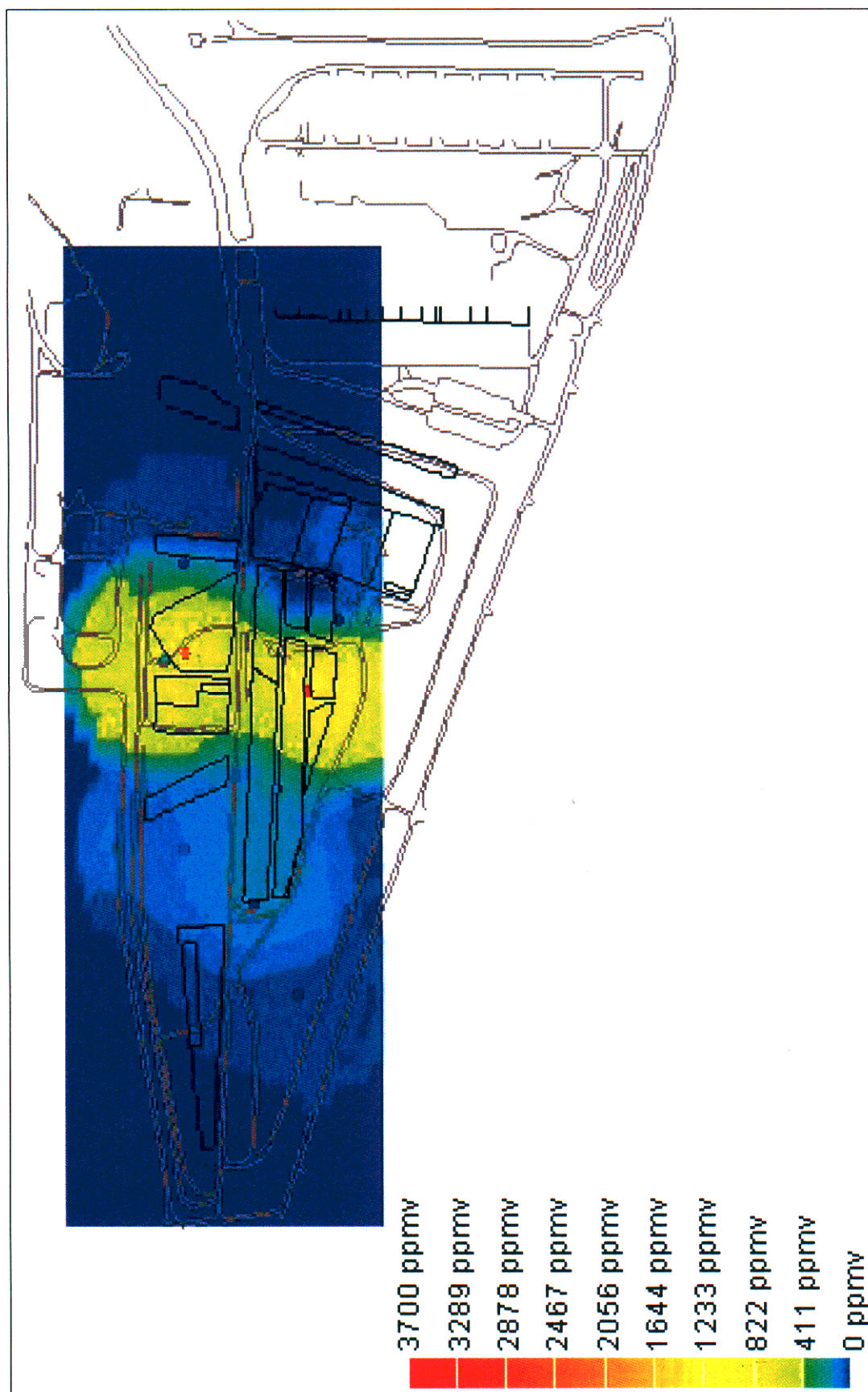


Figure D-2. Spatial distribution of volatile organic compounds in the Subsurface Disposal Area at approximately 21 m (70 ft) below ground surface in January 1998.

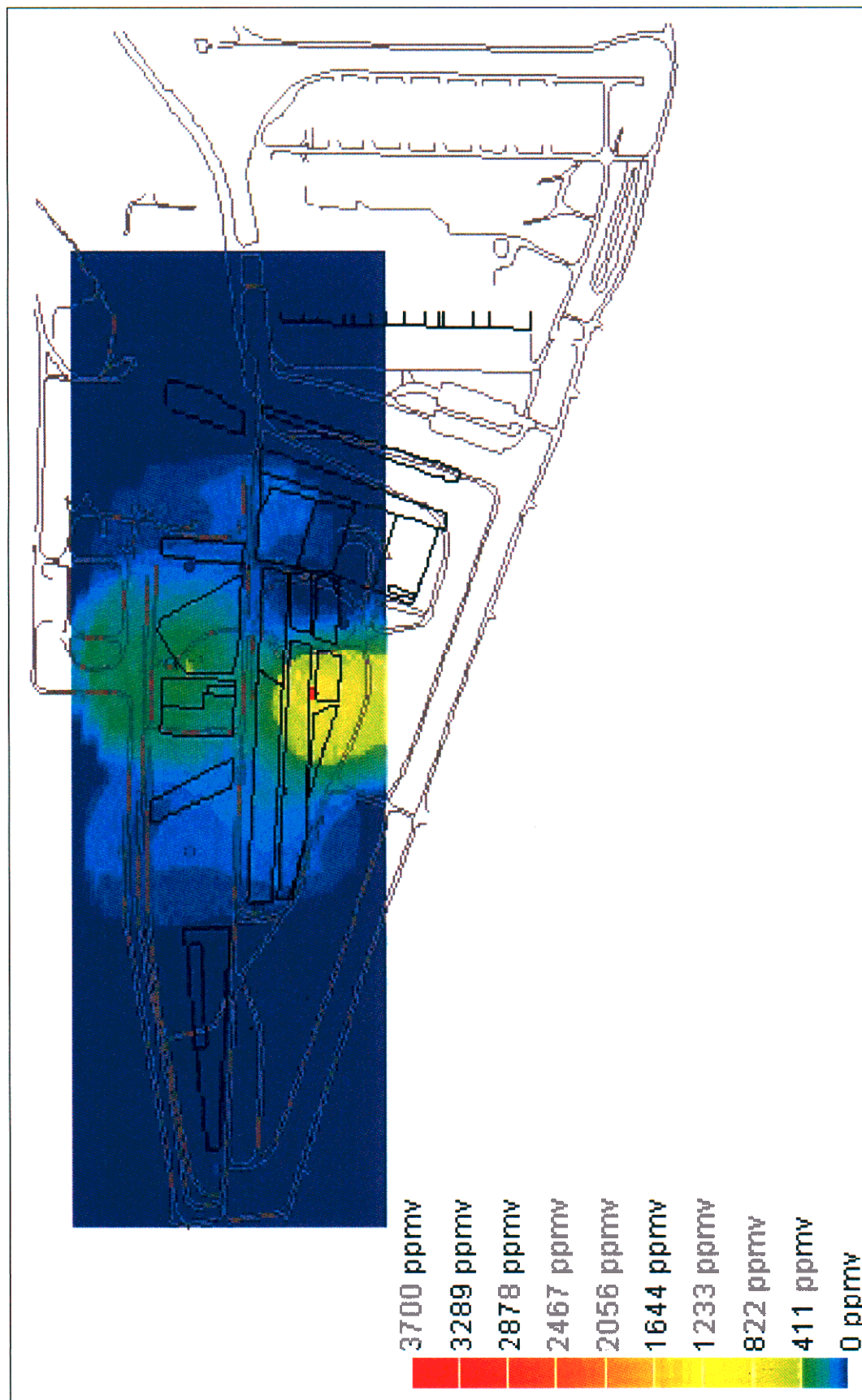


Figure D-3. Spatial distribution of volatile organic compounds in the Subsurface Disposal Area at approximately 21 m (70 ft) below ground surface in January 2000.

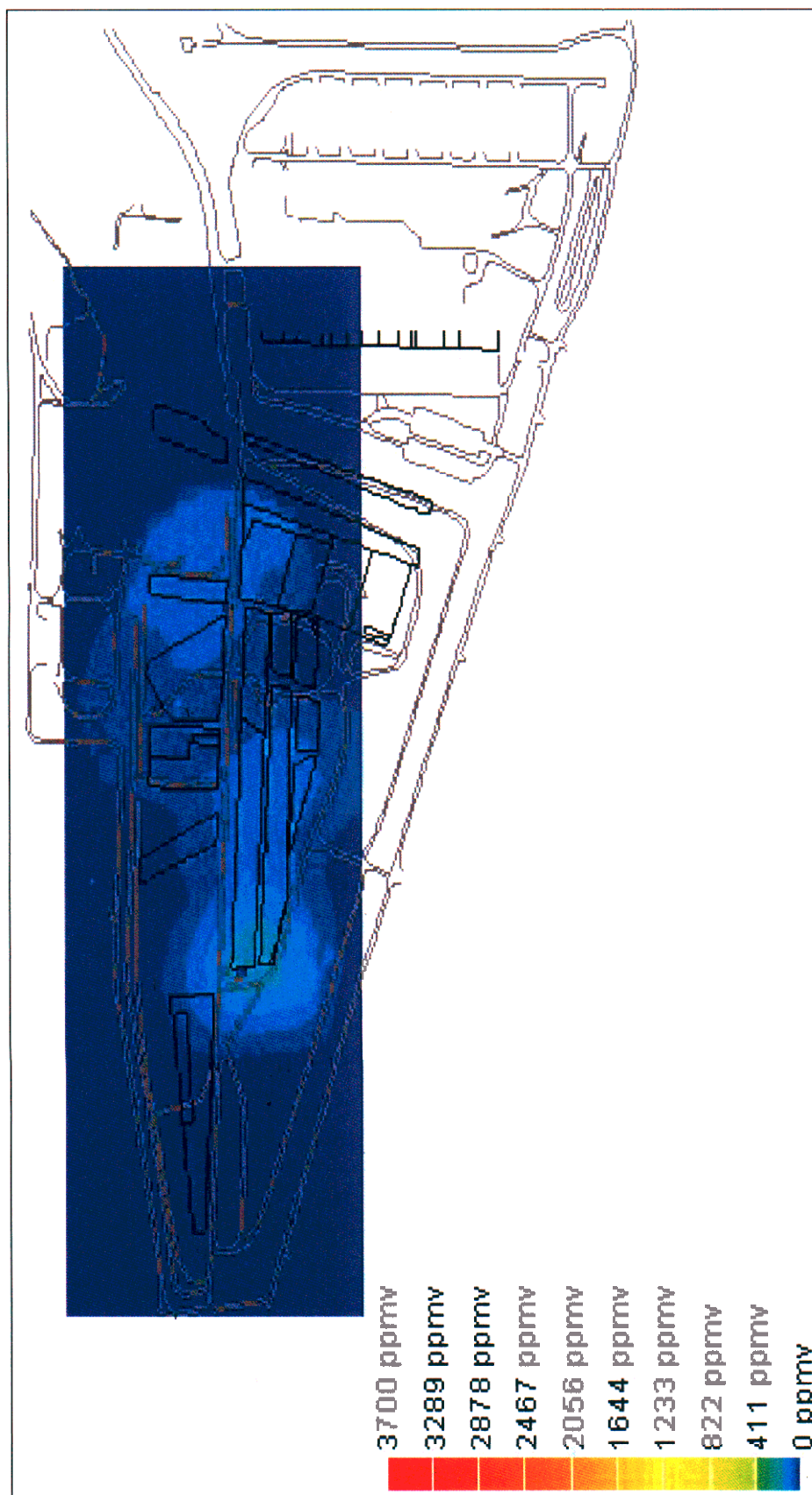


Figure D-4. Spatial distribution of volatile organic compounds in the Subsurface Disposal Area at approximately 21 m (70 ft) below ground surface in December 2002.



## **Appendix E**

### **Operations History of Vacuum Vapor Extraction with Treatment Units at the Subsurface Disposal Area**



## **Appendix E**

### **Operations History of Vacuum Vapor Extraction with Treatment Units at the Subsurface Disposal Area**

During the end-year 2002 operations period, a goal of 80% uptime of available hours was set for operation of the vacuum vapor extraction with treatment (VVET) units at the Subsurface Disposal Area, including planned downtime for maintenance activities. Units A, B, and D achieved uptimes of 100, 97.5, and 99.7% of available hours, respectively. Figures E1, E2, and E3 show the operation histories of the three VVET units during the year-end 2002 operational period. Table E1 shows the cumulative operating schedule for VVET operations through December 2002.

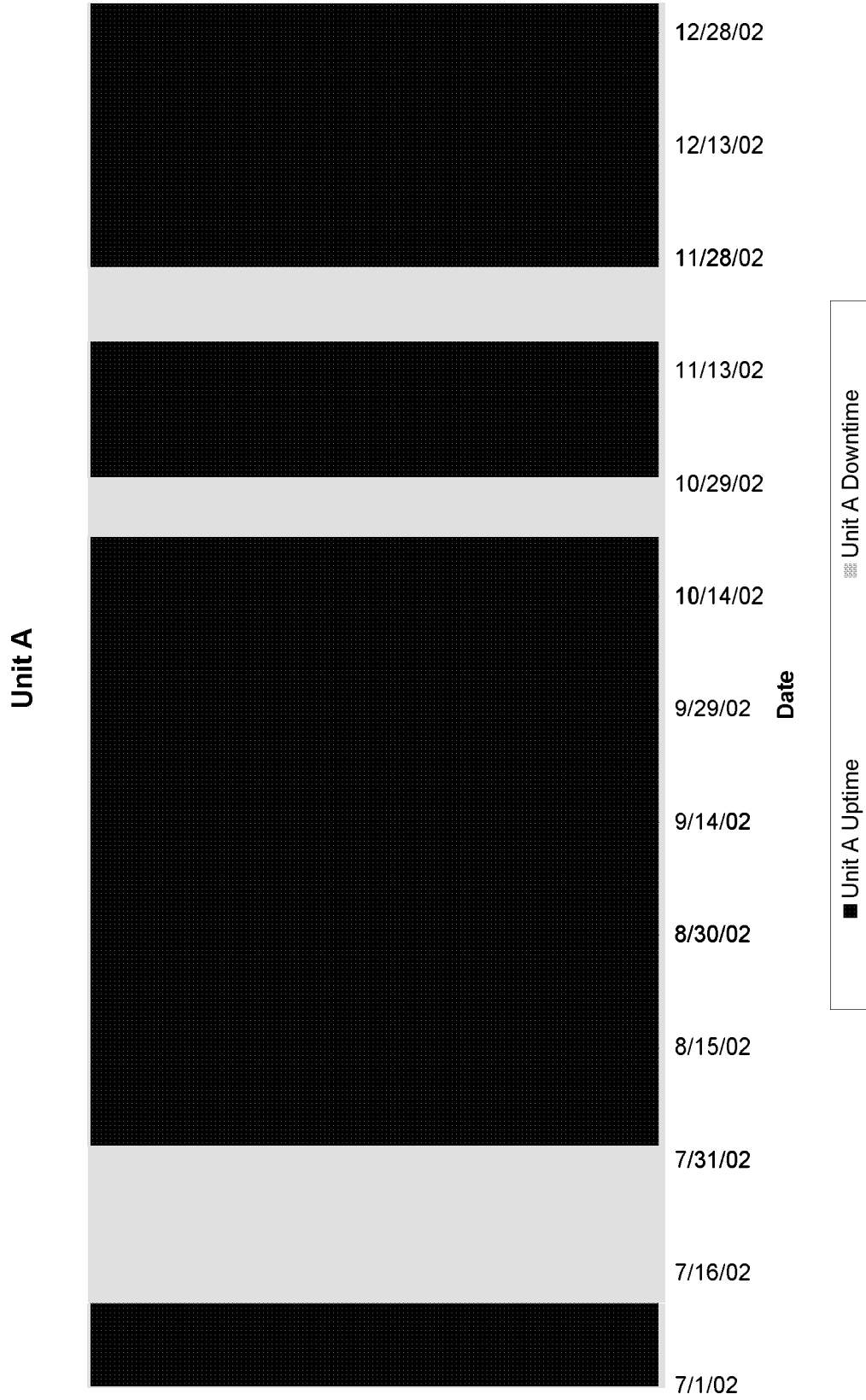


Figure E-1 Operation history of vapor vacuum extraction with treatment Unit A for end-year 2002.

## Unit B

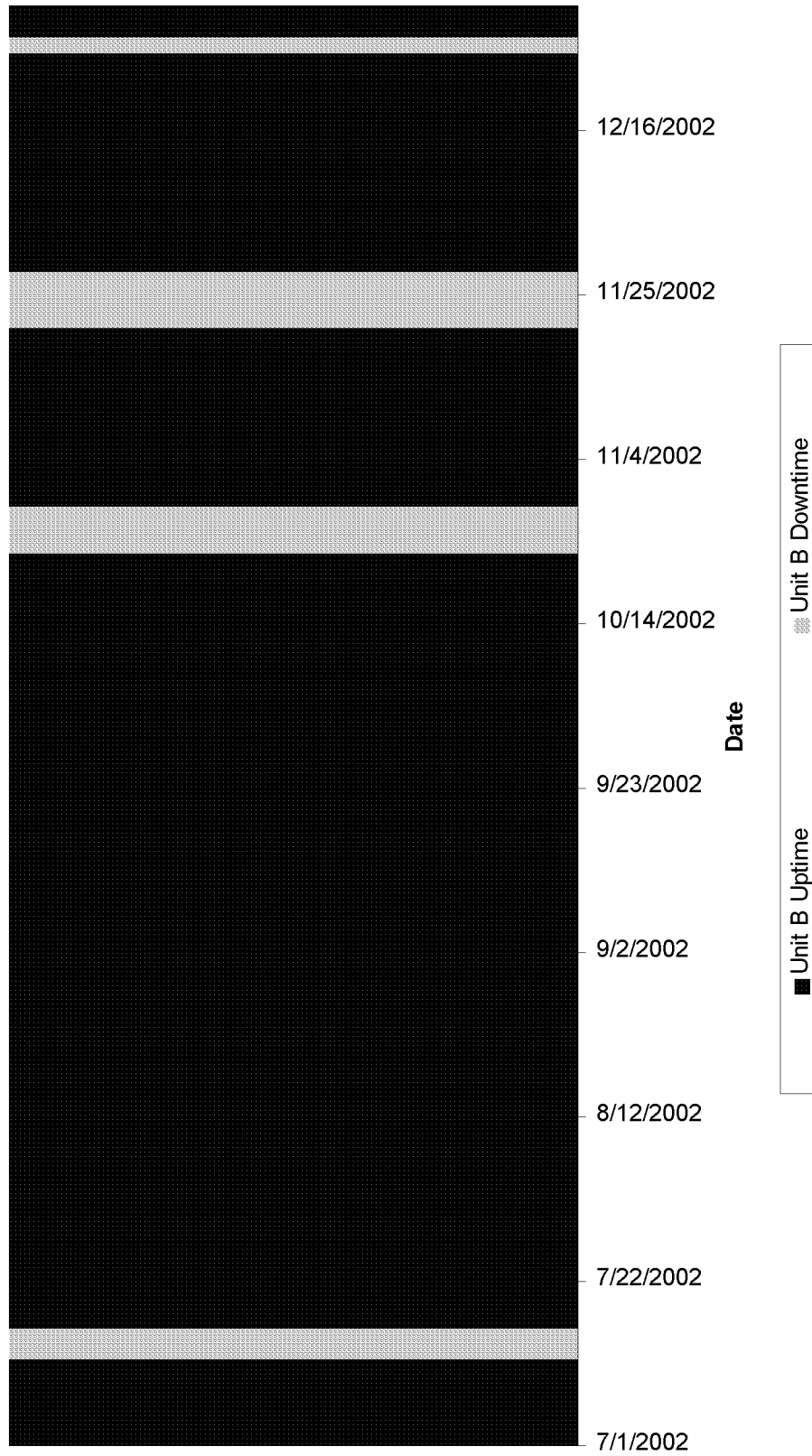


Figure E-2. Operation history of vapor vacuum extraction with treatment Unit B for end-year 2002.

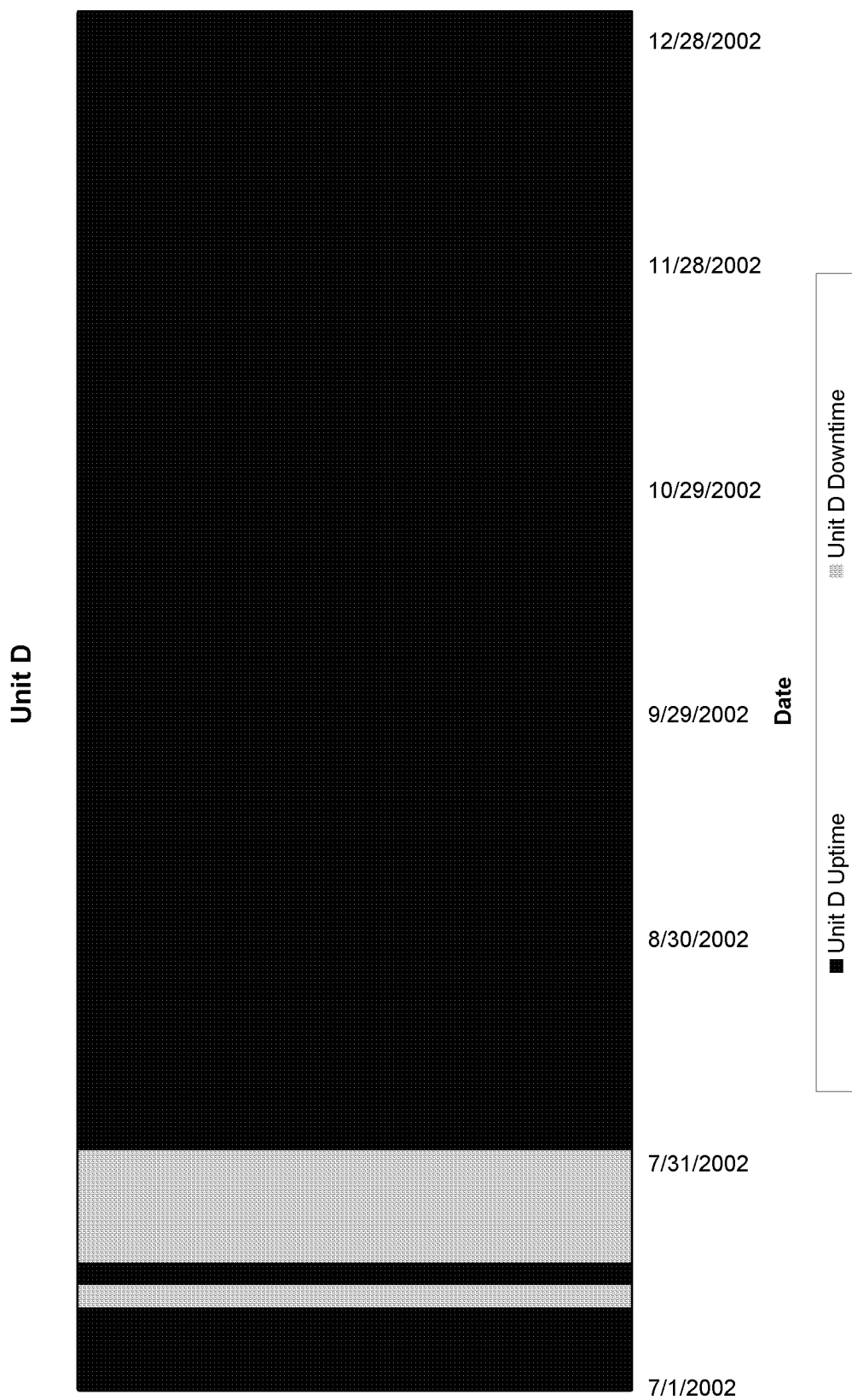


Figure E-3. Operation history of vapor vacuum extraction with treatment Unit D for end-year 2002.

Table E-1. Cumulative operating schedule for vapor vacuum extraction with treatment operations through December 2002.

Operating Period	Year	Unit A	Unit B	Unit C	Unit D
First 8 weeks	1996				
Hours operated		1,321	1,137	1,102	—
Hours available		1,602	1,437	1,265	—
Percent operated		82%	79%	87%	—
Second 8 weeks	1996				
Hours operated		916	614	915	—
Hours available		994	971	994	—
Percent operated		92%	63%	92%	—
Third 8 weeks	1996				
Hours operated		750	640	752	—
Hours available		1,008	864	1,056	—
Percent operated		74%	74%	71%	—
First quarter	1997				
Hours operated		120	744	1056	—
Hours available		2,952	2,952	2,952	—
Percent operated		4%	25%	36%	—
Second quarter	1997				
Hours operated		899	1,223	1,355	—
Hours available		1,023	1,531	1,633	—
Percent operated		88%	80%	83%	—
Third quarter	1997				
Hours operated		824	764	898	—
Hours available		954	817	912	—
Percent operated		86%	94%	98%	—
Fourth quarter	1997				
Hours operated		2,776	2,677	160	—
Hours available		2,845	2,840	2,848	—
Percent operated		98%	94%	6%	—

Table E-1. (continued).

Operating Period	Year	Unit A	Unit B	Unit C	Unit D
Midyear	1998				
Hours operated		2,821	2,639	0	—
Hours available		2,880	2,880	2,880	—
Percent operated		98%	92%	0%	—
End-Year	1998				
Hours operated		3,809	3,713	0	—
Hours available		4,200	4,152	4,104	—
Percent operated		91%	90%	0%	—
Midyear	1999				
Hours operated		3,162	305	0	—
Hours available		4,152	407	4,152	—
Percent operated		76%	75%	0%	—
End-Year	1999				
Hours operated		3,120	2,544	2,424	—
Hours available		3,432	3,432	3,432	—
Percent operated		91%	74%	71%	—
Midyear	2000				
Hours operated		3,520	3,236	1,938	—
Hours available		4,032	4,032	4,032	—
Percent operated		87%	80%	48%	—
End-Year	2000				
Hours operated		2,325	0	Unit C failed in Spring 2000	—
Hours available		3,144	3,144		—
Percent operated		74%	0%		—
Midyear	2001				
Hours operated		2,440	624	Unit C replaced with Unit D in Spring 2001	—
Hours available		4,008	4,008		—
Percent operated		61%	16%		—
End-Year	2001			Unit D shakedown period	
Hours operated		3,049	3,712	—	—
Hours available		4,080	4,080	—	—
Percent operated		75%	91%	—	—

Table E-1. (continued).

Operating Period	Year	Unit A	Unit B	Unit C	Unit D
Midyear	2002			Shakedown complete 3/4/02	
Hours operated		3,067	3,228	—	792
Hours available (including planned downtime)		3,258	3,258	—	2,142
Percent operated		94%	99%	—	37%
End-Year	2002				
Hours operated		3,743	3,947	—	3,931
Hours available (including planned downtime)		3,743	4,047	—	3,942
Percent operated		100%	97.5%	—	99.7%
Total	1996 to 2002				
Hours operated		38,662	31,747	10,600	4,723
Hours available		48,307	44,852	30,260	6,084
Percent operated		80%	71%	35%	78%

